

```

1 */ MR.DO.BANK1 LAST EDIT:8/14/83
2 *****
3 * FINAL LISTING FOR ATARI VCS "MR. DO!"
4 * NTSC VERSION.... 8/14/83
5 * BY ED ENGLISH OF INDIVIDEO, INC
6 *****
7 ;
8 * 1ST 4K BANK OF MR.DO! ->
9 ;
10 * THIS IS THE MAIN FILE FOR BANK1
11 * OF MR.DO!
12 *****
13 TOP2      =      $3012
14 BEGORG    =      $2000 — $3000
15 BEGOBJ    =      $8004
16 ;
17          LST  ON
18 *****
19 * ATARI 2600 EQUATE FILE      *
20 *****
21          PUT  MR.DO.VCSDEF1
22          PAG
23 *****
24 * RAM DEFINITION & EQUATES    *
25 *****
26          PUT  MR.DO.EQU
27          PUT  MR.DO.SOUND EQUATES
28 ;
29          ORG  BEGORG-4
30          DA   BEGORG
31          DA   END
32          PAG
33 *****
34 * POWERUP INITIALIZATION      *
35 *****
36          PUT  MR.DO.INIT
37          PAG
38 *****
39 * BOTTOM VERTICAL INTERVAL     *
40 *****
41          PUT  MR.DO.BOTVI
42          PAG
43 *****
44 * APPLE CONTROL CODE          *
45 *****
46          PUT  MR.DO.APPLE
47          PAG
48 *****
49 * VERTICAL RETRACE CODE       *
50 *****
51          PUT  MR.DO.VINT
52          PAG
53 *****
54 * JOYSTICK & SWITCH READING   *
55 *****
56          PUT  MR.DO.JOYSTICK
57          PAG
58 *****
59 * POWERBALL CONTROL CODE      *
60 *****
61          PUT  MR.DO.PWRBALL
62 ;
63 *****
64 * BANK SWITCH FOR REST OF TOPVI*

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```

62 *****
63 *****
64 * BANK SWITCH FOR REST OF TOPVI*
65 *****
66     JMP TOPSW
67     PAG
68 *****
69 * BANK1 SUBROUTINES *
70 *****
71     PUT MR.DO.SUBS1
72     PAG
73     PUT MR.DO.FIELD.RTNS
74     PAG
75     OBJ BEGOBJ+$E07
76     ORG BEGORG+$E07
77 *****
78 * ORCHARD DATA TABLES *
79 *****
80     PUT MR.DO.FIELD DATA
81     PAG
82     OBJ BEGOBJ+$F00
83     ORG BEGORG+$F00
84 *****
85 * CHERRY DATA TABLES *
86 *****
87     PUT MR.DO.CHERRY TABLES
88     PAG
89     OBJ BEGOBJ+$FFC
90     ORG BEGORG+$FFC
91     DA PWRUP
92 END

```

:PR#0

:ASM

```
1  */ MR.DO.BANK1 LAST EDIT:8/14/83
2  *****
3  * FINAL LISTING FOR ATARI VCS "MR. DO!"
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5  * BY ED ENGLISH OF INDIVIDEO, INC
6  *****
7  ;
8  * 1ST 4K BANK OF MR.DO! ->
9  ;
10 * THIS IS THE MAIN FILE FOR BANK1
11 * OF MR.DO!
12 *****
13 TOP2      =      $3012
14 BEGORG    =      $2000
15 BEGOBJ    =      $8004
16 ;
17 *****
18 * ATARI 2600 EQUATE FILE      *
19 *****
20 PUT MR.DO.VCSDEF1
21
>1 *FILE: MR.DO.VCSDEF1
>2 *ATARI VCS VIDEO REGS + 6532 RIOT
>3 *****
>4 ;
>5 ATSYNC    =      $00      ;B1=1 BRINGS GUN HOME.
>6 ATBLNK    =      $01      ;B1=1 TURN GUN OFF.
>7 ATWAIT    =      $02      ;STOP 6507 UNTIL END OF LINE.
>8 ATACTL    =      $04      ;SPRITE/MISSLE A CONTROL-
>9 ATBCTL    =      $05      ;SAME AS ATACTL FOR SPRITE B.
>10 ATACOL    =      $06      ;SPRITE/MISSLE A COLOR.
>11 ATBCOL    =      $07      ;COLOR SPRITE B
>12 ATFCOL    =      $08      ;FIELD COLOR
>13 ATSCOL    =      $09      ;SCREEN COLOR
>14 ATFCTL    =      $0A      ;FIELD DATA/MISSLE CONTROL
>15 ATSALA    =      $10      ;SPRITE A HORIZ LATCH.
>16 ATSBLA    =      $11
>17 ATADAT    =      $1B      ;SPRITE A DATA.
>18 ATBDAT    =      $1C      ;SPRITE B DATA
>19 ATMVIN    =      $2A      ;ADDS INCR. TO SPRITE & MISSLE POS

ITIONS.

>20 ATREMV    =      $2B      ;RESET ALL 5 INCREMENT REGS.
>21 ATJBA     =      $3C      ;JOY BUTTON A.
>22 JOYDAT    =      $280     ;JOYSTICKDATA (PORT A) ALSO PADDLE

BUTTONS.

>23 ;0=CLOSED 1=OPEN
>24 * JOYDAT BITMASKS-->
>25 *-----
>26 JOYAUP    =      $10      ;A UP
>27 JOYADN    =      $20      ;A DOWN
>28 JOYALT    =      $40      ;A LEFT
>29 JOYART    =      $80      ;A RIGHT
>30 ;
>31 ;
>32 SWITCH    =      $282     ;PANEL SWITCHES (PORT B).
>33 * BIT MASKS FOR SWITCH-->
>34 *-----
>35 SWIRES    =      $01      ;GAME RESET
>36 SWISEL    =      $02      ;GAME SELECT
>37 SWICOL    =      $08      ;TV TYPE(0=BW, 1=COL)
>38 SWIADF    =      $40      ;PLAYER A DIFFICULTY
>39 SWIBDF    =      $80      ;      B
>40 ;
>41 * 6532 READ-ONLY REGS
```

1001 READ ONLY RESS
>42 *-----
>43 TIMER = \$284 ;TIMER
>44 TIME64 = \$296 ;TIMER/64.

```

23 *****
24 * RAM DEFINITION & EQUATES *
25 *****
26 PUT MR.DO.EQU
>1 */MR.DO.EQU LAST EDIT:8/1/83
>2 *****
>3 *
>4 * * * * *
>5 * * * * *
>6 * * * * *
>7 * * * * *
>8 * * * * *
>9 * * * * *
>10 *
>11 *****
>12 * GAME CONTROL RAM *
>13 *-----*
>14 GAME = $80 ;B0-B3 = GAME NUM.
>15 ROUND = $81 ;B0-B3 = ROUND NUM.
>16 ;
>17 *****
>18 * SCORE DATA *
>19 *-----*
>20 SCORLO = $82 ;LO 2 SCORE DIGITS.
>21 SCORHI = $83 ;HI 2 SCORE DIGITS.
>22 ;
>23 FRAMEL = $84 ;FRAME COUNT LO.
>24 FRAMEH = $85 ;FRAME COUNT HI.
>25 ;
>26 *****
>27 * SOUND DATA *
>28 *-----*
>29 AIDX = $86 ;IDX TO CH A SOUND.
>30 BIDX = $87 ;IDX TO CH B SOUND.
>31 ADUR = $88 ;DURATION OF CH A SOUND.
>32 ;ZERO = GET NEXT NOTE.
>33 ;MINUS = NO SOUND ON.
>34 BDUR = $89 ;DURATION OF CH B SOUND.
>35 ;
>36 *****
>37 * MISC. STATUS BYTES--> *
>38 *****
>39 DIGINV = $8A ;NUM DIGGERS LEFT.
>40 ALPHA = $8B ;ALPHA MONSTER STATUS.
>41 ;B0-B2=IDX FOR CHANNEL SELECT.
>42 ;B3-B7=LETTER GOTTEN FLAGS.
>43 CHERRYT = $8C ;CHERRY TIMER/NOTE PTR.
>44 ;B0-B4=TIMER SINCE LAST CHERRY EAT
EN.
>45 ; (0=TIMER EXPIRED).
>46 ;B5-B7=NOTE IDX FOR NEXT CHERRY EA
TEN SOUND.
>47 ;
>48 APFALL = $8D ;APPLE FALLING IDX.
>49 ;B7=1=NO APPLE FALLING.
>50 ;B4-B6=WHICH APPLE IS FALLING.
>51 ;B0-B3=STAGE TIMER.
>52 ANIM8 = $8E ;ANIMATION FLAGS.
>53 ;B7=MR DO BEING DRAGGED.
>54 ;B6=DIG1 BEING DRAGGED.
>55 ;B5=DIG2 BEING DRAGGED.
>56 ;B1=ALF MONSTER OUT.
>57 ;B0=MR DO IMG.FLIP/FLOP.
>58 FCOLOR = $8F ;FIELD (ORCHARD) COLOR.
>59 *****

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G).

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>59 *****
>60 *      CHERRY DATA      *
>61 *-----*
>62                                     ; 8 BYTES ($90-$97).
>63 CHERRYC   =   $90           ; CHERRY CONTROLS FOR 8 BANDS.
>64                                     ; B0-B2 = CONTROL VALUE (REP/SPACIN
>65                                     ; B3-B6 = IDX TO CPOF TABLE.
>66                                     ; B7 = NO CHERRY/SOME CHERRY FLAG.
>67                                     ;
>68 *****
>69 *      ASYM FIELD DATA   *
>70 *-----*
>71                                     ; 32 BYTES ($98-$B7).
>72 FR1L      =   $98           ; 8 BANDS OF FR1 LEFT DATA.
>73 FR2L      =   $A0           ; 8 BANDS OF FR2 LEFT DATA.
>74 FR2R      =   $A8           ; 8 BANDS OF FR1 RIGHT DATA.
>75 FR1R      =   $B0           ; 8 BANDS OF FR2 RIGHT DATA.
>76                                     ;
>77 LASTJY    =   $BB           ; LAST LEGAL JOY (MR.DO. DIR).
>78                                     ;
>79 *****
>80 *      MISSILE DATA     *
>81 *-----*
>82 MISLN     =   $B9           ; MIS LINENUM.
>83 MSBAND    =   $BA           ; MIS VERT POS.
>84                                     ; B0-B3 = LN OFFSET.
>85                                     ; B4-B6 = BAND NUM.
>86                                     ; B7 = ON/OFF FLAG.
>87                                     ;
>88 MISPOF    =   $BB           ; MIS HORIZ POS.
>89                                     ; B0-B6 = IDX TO POSTBL.
>90                                     ; B7 = MIS AVAILABLE FLAG.
>91                                     ;
>92 MISDIR    =   $BC           ; MIS DIRECTION.
>93                                     ; B0-B1 = MIS DIRECTION.
>94                                     ; ALSO DOUBLES AS TIME
>95                                     ; BEFORE PWRBALL AVAIL AGAIN.
>96                                     ;
>97                                     ;
>98 *****
>99 *      MR.DO & DIGGER DATA  *
>100 *-----*
>101 DOBAND    =   $BD           ;
>102 DIGBAND   =   $BE           ; DIG VERT POS.
>103                                     ; B0-B3 = LN OFFSET.
>104                                     ; B4-B6 = BAND NUM.
>105                                     ; B7= ON/OFF FLAG.
>106                                     ;
>107 DOPOF     =   $C0           ;
>108 DIGPOF    =   $C1           ; DIG HORIZ POS.
>109                                     ; B0-B6 = IDX TO POSTBL.
>110                                     ;
>111 DODAT      =   $C3           ;
>112 DIGDAT     =   $C4           ; DIG DATA PTR.
>113                                     ;
>114 DIGDIR     =   $C6           ; DIG CONTROL.
>115                                     ; B0-B1 = DIRECTION.
>116                                     ; B7 = DIGGING FLAG.
>117 DIGSPD     =   $C8           ; DIG SPEED.
>118                                     ; (IDX TO SPDTBL)
>119                                     ; B0= UP SPEED.
>120                                     ; B1= DOWN SPEED.
>121                                     ; B2= LEFT SPEED.
>122                                     ; B3= RIGHT SPEED.
>123                                     ;
>124 DIGTIM     =   $C9           ; DIG SECT. RANGES

```

AGAIN.

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>125 DIGIQ      =      $CC      ;DIG INTELLIGENCE.
>126
>127
>128 MUX        =      $CE      ;B0-B2=HOW MANY CCELLS TO GO
>129
>130
>131
>132 *          APPLE  RAM          *
>133 *****
>134
>135 APBAND      =      $D0      ;8 BYTES ($D0-$D7).
>136
>137
>138
>139
>140 APPOF      =      $D4      ;APPLE POS.
>141
>142
>143 PWRTIM      =      $D8      ;B0-B3 = IMG TBL IDX.
                                ;B4-B6 = BAND NUM.
                                ;B7 = ON/GONE FLAG.
>144
>145
>146
>147
>148
>149 *          TEMPORARY (SHARED) RAM          *
>150 *-----*
>151
>152
>153 * RAM USED TO PAINT PLAYFIELD->
>154 *****
>155 PTR         =      $DC      ;SA IMG PAGE FLAGS FOR 8 BANDS.
>156
>157
>158
>159 * SPRITE A (DIG,APPLE) DISPLAY RAM
>160 * ($DE-$EE)
>161 *****
>162 LODATA      =      $DE      ;LO ADDRS SA (8 BANDS).
>163 ADAT        =      $E5      ;LO ADDR FOR SA INDIRECT.
>164 HIDATA      =      $E6      ;HI DATA ADDRS FOR SA.
>165
>166
>167
>168 * SPRITE B (MR DO,CHERRY) DISPLAY RAM
>169 * ($EF-$FF)
>170 *****
>171 LODATB      =      $EF      ;LO ADDRS SB (8 BANDS).
>172 BDAT        =      $F6      ;LO ADDR FOR SB INDIRECT.
>173 HIDATB      =      $F7      ;HI DATA ADDR FOR SB.
>174
>175
>176
>177
>178
>179 * TEMP VERTICAL INTERVAL RAM
>180 *-----*
>181 TEMP14      =      $EA
>182 TEMP15      =      $EB
>183 TEMP11      =      $EC
>184 TEMP12      =      $ED
>185 TEMP13      =      $EE
>186 TEMP1       =      $EF
>187 TEMP2       =      $F0
>188 TEMP3       =      $F1
>189 TEMP4       =      $F2

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>187 TEMP4 = $F2
>190 TEMP5 = $F3
>191 TEMP6 = $F4
>192 TEMP7 = $F5
>193 TEMP8 = $F6
>194 TEMP9 = $F7
>195 TEMP10 = $F8
>196 ;
>197 * RAM FOR DISPLAYING 6 SPRITES->
>198 * NOTE-THIS RAM PLUS TEMP1,2,3 DOES
>199 * NOT CONFLICT WITH SA DISPLAY RAM.
>200 *****
>201 PD100K = $F2
>202 PD10K = $F4
>203 PD1K = $F6
>204 PD100 = $F8
>205 PD10 = $FA
>206 PD1 = $FC
>207 ;

```



```

>209 *****
>210 *
>211 * ***** * * *
>212 * * * * *
>213 * *** * * *
>214 * * * * *
>215 * * * * *
>216 * ***** * *
>217 *
>218 *****
>219 * COLOR EQUATES *
>220 *-----*
>221 ;
>222 BLACK = 0
>223 WHITE = $0E
>224 RED = $22
>225 YELLOW = $1A
>226 GREEN = $D6
>227 ORANGE = $28
>228 BLUE = $9A
>229 PURPLE = $68
>230 BROWN = $12
>231 GOLD = $16
>232 LBLUE = $96
>233 ;
>234 SCRCOL = BLACK ;BKGND COLOR OF ORCHARDS.
>235 ;
>236 *****
>237 * DIRECTION EQUATES -> *
>238 *-----*
>239 * STARTING IDXs FOR EACH DIR IN DIRTBL->
>240 UPI = 0
>241 DOWNI = 4
>242 RIGHTI = 8
>243 LEFTI = 12
>244 ;
>245 * DIRECTION VALUES-->
>246 UPD = 0
>247 DOWND = 1
>248 RIGHTD = 2
>249 LEFTD = 3
>250 ;
>251 *****
>252 * GAME MODES--> *
>253 *****
>254 RESUM = $80 ;RESUME PLAY MODE(1 SEC BLACK).
>255 XTRADO = $70 ;EXTRA MR.DO.WON.
>256 TRACK = $50 ;ALT CPMD+ ORCH.
>257 GAMOVR = $40
>258 SELECT = $30 ;SELECT MODE.
>259 DODEAD = $20
>260 PLAY = $10
>261 ;
>262 *****
>263 * VERT INTERVAL TIMER EQUATES *
>264 *-----*
>265 TOPTIM = $A9 ;TOPVI TIMER VALUE.
>266 MIDTHIM = $AD ;TIME TO PAINT SCORE,EXTRA + SET R
>267 ;
>268 BOTTIM = $9F ;BOTVI TIMER VALUE.
27 PUT MR.DO.SOUND EQUATES.
>1 */ SOUND EQUATES LASTED 7/8/83
>2 ;
>3 * OFFSETS FROM SNDTBL-->

```

AM UP.

```

>4 *****
>5 DEADSND = 0
>6 BEEP = 8
>7 BOOP = $0E
>8 BELLS = $14
>9 ;CHERRY NOTES->
>10 CHER1 = $1C
>11 CHER2 = $29
>12 CHER3 = $36
>13 CHER4 = $43
>14 CHER5 = $50
>15 CHER6 = $5D
>16 ;
>17 * OFFSETS FROM AMUSFW (MUSIC)->
>18 *****
>19 SONG1 = 0 ;ORCHARD SONG.
>20 SONG2 = $31 ;END SONG.
>21 SONG3 = $51 ;DO DEAD SONG.
28 ;
29 ORG BEGORG-4
30 DA BEGORG
31 DA END

1FFC: 00 20
1FFE: FE 2F

```

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33 *****
34 * POWERUP INITIALIZATION *
35 *****
36 PUT MR.DO.INIT
>1 */ MR.DO.INIT LASTED:7/27/83.
>2 *
>3 * BANK SWITCH TO 2ND BANK->
>4 *****
>5 TOPSW
2000: AD F9 FF >6 LDA $FFF9
2003: 4C 12 30 >7 JMP TOP2 ;CONT.W/TOPVI.
>8 * COME HERE FROM BANK 2-->
>9 *****
2006: EA >10 NOP
2007: EA >11 NOP
2008: EA >12 NOP
2009: EA >13 NOP
200A: 4C 2E 20 >14 JMP BOTVI
200D: EA >15 NOP
200E: EA >16 NOP
200F: EA >17 NOP
2010: EA >18 NOP
2011: EA >19 NOP
>20 ;
>21 * ENTER HERE FOR BANK2 POWERUP->
>22 *****
>23 PWRUP
2012: 78 >24 SEI
2013: D8 >25 CLD
2014: A2 00 >26 LDX #0
2016: 8A >27 TXA
2017: 95 00 >28 CLRAM STA 0,X
2019: 9A >29 TXS
201A: E8 >30 INX
201B: D0 FA >31 BNE CLRAM
>32 *
>33 * GO INIT CHERRY, FIELD MAP, MUGS, APPLES, ETC-->
>34 *****
>35 ;ROUND=0.
201D: 20 A9 29 >36 JSR IROUND
>37 ;NO SONG->
>38 ;
2020: A9 30 >39 LDA #SELECT ;TRACK MODE
2022: 85 DA >40 STA MODE ;GAME NUM=0
>41 ;
2024: A9 FF >42 LDA #$FF
2026: 85 88 >43 STA ADUR
2028: 85 89 >44 STA BDUR ;NO SND.
>45 ;
202A: A9 31 >46 LDA #$31 ;BX MIS.
202C: 85 0A >47 STA ATFCTL ;MIRROR.
>48 ;
>49 ;

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38 *****
39 * BOTTOM VERTICAL INTERVAL *
40 *****
41 PUT MR.DO.BOTVI
>1 */ MR.DO.BOTVI LASTED: 8/3/83
>2 *****
>3 * BOTTOM VERTICAL INTERVAL *
>4 *****
>5 BOTVI
>6 LDA #BOTTIM
>7 STA ATWAIT
>8 STA TIME64 ; INIT TIMER.
>9 LDA MODE
>10 CMP #PLAY
>11 BEQ PMODE
>12 ;
>13 *SKIP MOST BOTVI IF NOT PLAY MODE
>14 *****
203B: 4C 3C 23 >15 JMP ENDBOT
>16 ;
>17 * ARE ALL DIGGERS DEAD???
>18 *****
>19 PMODE
>20 LDA #F8
>21 AND ALPHA
>22 CMP #F8 ; ALL LETTERS HAD?
>23 BEQ EATTST ; J Y. (SKIP DIGS DEAD TEST)
>24 ;
>25 LDA DIGBAND
>26 BPL EATTST
>27 LDA DIGBAND+1
>28 BPL EATTST
>29 ; BOTH DIGS ARE OFF->
204E: A5 8A >30 LDA DIGINV ; ANY DIGS LEFT?
2050: F0 0D >31 BEQ NEWRND ; J N.
>32 ;
>33 *****
>34 * TEST IF ALL CHERRIES ARE GONE*
>35 *****
>36 EATTST
2052: A5 89 >37 LDA BDUR
2054: 10 19 >38 BPL SOMLFT ; JP SONG ON.
2056: A2 07 >39 LDX #7
>40 ALGONE
2058: B5 90 >41 LDA CHERRYC,X
205A: 30 13 >42 BMI SOMLFT ; JP SOME CHERRY LEFT.
205C: CA >43 DEX
205D: 10 F9 >44 BPL ALGONE
>45 ; ELSE ALL CHERRIES GONE.

```

		>47	* PREPARE TO START NEW ROUND->	
		>48	*****	
		>49	NEWNRD	
205F:	A9 80	>50	LDA #RESUM	
2061:	85 DA	>51	STA MODE	
		>52		;PLAY ROUND OVER SONG->
2063:	A9 00	>53	LDA #SONG1	
2065:	20 2C 2D	>54	JSR SONG	
		>55		
2068:	A9 D8	>56	LDA #\$D8	; SHORT DELAY BETWEEN
206A:	85 84	>57	STA FRAMEL	; SCREENS.
206C:	4C 3C 23	>58	JMP ENDBOT	
		>59	SOMLFT	

```

>61
>62 * MR. DO V. DIG HIT TEST-> *
>63 *****
206F: A5 BD >64 LDA DOBAND
2071: 4A >65 LSR
2072: 4A >66 LSR
2073: 4A >67 LSR
2074: 4A >68 LSR
2075: 85 EF >69 STA TEMP1 ;SV DO BAND.
2077: A2 01 >70 LDX #1 ;TRY BOTH DIGGERS->
>71 HIT2
2079: B5 BE >72 LDA DIGBAND,X
207B: 30 15 >73 BMI NXTTRY ;JP DIG IS OFF.
207D: 4A >74 LSR
207E: 4A >75 LSR
207F: 4A >76 LSR
2080: 4A >77 LSR
2081: C5 EF >78 CMP TEMP1 ;ON SAME BAND?
2083: D0 0D >79 BNE NXTTRY ;JP NO.
>80
>81
>82 * DO RANGE TEST FOR HORIZ POS->
>83 *****
2085: 38 >84 SEC
2086: A5 C0 >85 LDA DOPOF
2088: F5 C1 >86 SBC DIGPOF,X
208A: C9 02 >87 CMP #2
208C: 90 17 >88 BCC MDOHIT
208E: C9 FE >89 CMP #$FE
2090: B0 13 >90 BCS MDOHIT
>91 NXTTRY
2092: CA >92 DEX
2093: 10 E4 >93 BPL HIT2 ;TRY OTHER DIGGER.
2095: 4C C0 20 >94 JMP NOHIT ;ELSE TRIED BOTH.
>95 * ADD DIGS BACK TO INVENTORY->
>96 *****
>97 INCINV
2098: A5 BE >98 LDA DIGBAND
209A: 30 02 >99 BMI I15
209C: E6 8A >100 INC DIGINV
>101 I15
209E: A5 BF >102 LDA DIGBAND+1
20A0: 30 02 >103 BMI I19
20A2: E6 8A >104 INC DIGINV
>105 I19
20A4: 60 >106 RTS
>107

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```

>109 * MR DO IS HIT BY A DIGGER-->
>110 *****
>111 MDOHIT
20A5: A9 20 >112 LDA #DDEAD
20A7: 85 DA >113 STA MODE
>114 ;
>115 NOMORE
20A9: A9 51 >116 LDA #SONG3
20AB: 20 2C 2D >117 JSR SONG ;PLAY DEAD SONG.
20AE: 20 98 20 >118 JSR INCINV ;ADD DIGS BACK.
>119 ;
20B1: A9 00 >120 LDA #0
20B3: 85 84 >121 STA FRAMEL
20B5: A9 04 >122 LDA #4
20B7: 85 BC >123 STA MISDIR ;BRIEF DELAY.
20B9: A9 FF >124 LDA #$FF
20BB: 85 BA >125 STA MSBAND ;BALL IS UNAVAIL.
20BD: 4C 3C 23 >126 JMP ENDBOT
>127 NOHIT
>128 ;

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>130 *****
>131 * FIELD HIT DETECT
>132 * REMOVE BIT IN FLD MAP WHERE MOST OF MR BD IS-->
>133 * ALSO WHERE DIGGERS ARE.
>134 *****
20C0: A5 BD >135 LDA DOBAND
20C2: A6 C0 >136 LDX DOPOF
20C4: 20 B6 2D >137 JSR FMRMV ;RMV BITS IN FIELD MAP.
>138 ;
>139 * REMOVE FIELD WHERE DIGGERS ARE
>140 *****
20C7: A0 01 >141 LDY #1
>142 FLDOUT
20C9: B9 CA 00 >143 LDA DIGTIM,Y ;DIGGING?
20CC: 10 0A >144 BPL FMAP2 ;J N.
20CE: B9 BE 00 >145 LDA DIGBAND,Y
20D1: 30 05 >146 BMI FMAP2 ;J DIG OFF.
20D3: B6 C1 >147 LDX DIGPOF,Y
20D5: 20 B6 2D >148 JSR FMRMV ;RMV FIELD.
>149 FMAP2
20D8: 88 >150 DEY
20D9: 10 EE >151 BPL FLDOUT ;DO BOTH.

```

```

>153 *****
>154 * MOVE BADGUYS-CHASE MR.DO--> *
>155 *****
20DB: A5 89 >156 LDA BDUR
20DD: 30 05 >157 BMI MVCHK ;JP MUSIC NOT ON.
20DF: 4C 3C 23 >158 JMP ENDBOT
>159 ;
>160 * MASKS FOR DIGS BEING DRAGGED.
>161 DRAGTB
20E2: 40 20 >162 DFB $40,$20
>163 *****
>164 * A BADGUY/DIGGER ALWAYS CONTINUES MOVING IN A DIRECTION
>165 * UNTIL HE'S IN A CHAR CELL. THIS MEANS WHEN HE HAS TO
>166 * DECIDE WHICH DIRECTION TO MOVE NEXT, HE ALWAYS
>167 * HAS ALL 4 DIRECTIONS TO CHOOSE
>168 *****
>169 MVCHK
20E4: A5 DA >170 LDA MODE
20E6: C9 10 >171 CMP #PLAY
20EB: F0 03 >172 BEQ MVC1 ;J PLAY MODE.
>173 NMOV
20EA: 4C 3C 23 >174 JMP ENDBOT ;ELSE DON'T MOVE DIGS.
>175 MVC1
20ED: A5 84 >176 LDA FRAMEL
20EF: 29 01 >177 AND #1
20F1: AA >178 TAX ;X=WHICH DIG TO MOV.
20F2: EB >179 INX ;MAKE 1 OR 2.
20F3: BD E1 20 >180 LDA DRAGTB-1,X ;GET DRAG BIT MASK.
20F6: 25 8E >181 AND ANIMB ;BEING DRAGGED?
20F8: D0 F0 >182 BNE NMOV ;ELSE HE CAN'T MOVE.
20FA: B5 BD >183 LDA DOBAND,X ;GET DIGBAND.
20FC: 30 EC >184 BMI NMOV ;J IF OFF
20FE: B5 C0 >185 LDA DOPOF,X ;GET DIGPOF.
2100: 29 07 >186 AND #7
2102: D0 09 >187 BNE KEEPMMV ;JP NOT ON A COL,KEEP MOVING IN LA:
ST DIR.
>188 ;
>189 * DIGGER IS ON A COLUMN-->
>190 *****
2104: B5 BD >191 LDA DOBAND,X
2106: 29 0F >192 AND #OF
210B: D0 03 >193 BNE KEEPMMV ;JP NOT W/I A BAND TOO.
210A: 4C AB 21 >194 JMP NEWMOV

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>196 *KEEP DIGGER MOVING IN SAME DIR-->
>197 * BECAUSE HE'S NOT IN A CC YET.
>198 *****
>199 KEEPMV
210D: B5 C5 >200 LDA DIGDIR-1,X
210F: 29 03 >201 AND #3 ;KEEP ONLY DIR BITS.
2111: C9 00 >202 CMP #UPD
2113: D0 24 >203 BNE KM5 ;JP NOT UP.
>204 * MOVE HIM UP-->
>205 *****
2115: B4 C7 >206 LDY DIGSPD-1,X
2117: B9 95 2F >207 LDA SPDTBL,Y
211A: 29 01 >208 AND #1
211C: 85 F5 >209 STA TEMP7 ;UP SPD.
>210 MVU2
211E: 20 F7 2B >211 JSR MUP ;MOVE HIM UP.
>212 ;USED T1.
2121: 90 03 >213 BCC MVU3
2123: 4C C0 21 >214 JMP ABORT ;J CAN'T MV.
>215 MVU3
2126: B5 BD >216 LDA DOBAND,X
2128: 29 0F >217 AND #0F
212A: F0 0A >218 BEQ ENDMV ;IF IN CC DON'T MV AGAIN.
212C: C6 F5 >219 DEC TEMP7
212E: 30 06 >220 BMI ENDMV
2130: A5 D9 >221 LDA RANDOM
2132: 29 02 >222 AND #2
2134: F0 E8 >223 BEQ MVU2 ;MV AGAIN.
>224 ENDMV
2136: 4C 3C 23 >225 JMP ENDBOT
>226 KM5
2139: C9 01 >227 CMP #DOWND
213B: D0 21 >228 BNE KM7 ;JP NOT DOWN.
>229 * MOVE HIM DOWN-->
>230 *****
213D: B4 C7 >231 LDY DIGSPD-1,X
213F: B9 95 2F >232 LDA SPDTBL,Y
2142: 29 02 >233 AND #2
2144: 4A >234 LSR
2145: 85 F5 >235 STA TEMP7 ;DOWN SPD.
>236 MVD2
2147: 20 AF 2B >237 JSR MDOWN ;MOV HIM DOWN.
>238 ;USED T1.
214A: B0 74 >239 BCS ABORT ;J CAN'T MOV.
214C: B5 BD >240 LDA DOBAND,X
214E: 29 0F >241 AND #0F
2150: F0 E4 >242 BEQ ENDMV ;DON'T MV AGAIN IF IN CC.
2152: C6 F5 >243 DEC TEMP7
2154: 30 E0 >244 BMI ENDMV
2156: A9 02 >245 LDA #2
2158: 25 D9 >246 AND RANDOM
215A: F0 E8 >247 BEQ MVD2 ;MOVE AGAIN.
215C: D0 DB >248 BNE ENDMV
>249 ;
>250 KM7
215E: C9 03 >251 CMP #LEFTD
2160: D0 22 >252 BNE KMRT ;JP NOT LEFT.
>253 * MOVE HIM LEFT-->
>254 *****
>255 KMLFT
2162: B4 C7 >256 LDY DIGSPD-1,X
2164: B9 95 2F >257 LDA SPDTBL,Y
2167: 29 04 >258 AND #4
2169: 4A >259 LSR
216A: 2A >260 LDA

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216B: 85 F5	>261	STA	TEMP7	;LFT SPD.
	>262	KML2		
216D: 20 A6 2C	>263	JSR	MLEFT	;MOVE HIM LEFT.
	>264			;USED T1,T2,T3,T4.
2170: B0 4E	>265	BCS	ABORT	;J CAN'T MOV.
2172: B5 C0	>266	LDA	DOPOF,X	
2174: 29 07	>267	AND	#7	
2176: F0 BE	>268	BEQ	ENDMV	;DON'T MV AGAIN IF IN CC.
217B: C6 F5	>269	DEC	TEMP7	
217A: 30 BA	>270	BMI	ENDMV	
217C: A9 02	>271	LDA	#2	
217E: 25 D9	>272	AND	RANDOM	
2180: F0 EB	>273	BEQ	KML2	;MV AGAIN.
2182: D0 B2	>274	BNE	ENDMV	
	>275			
	>276	* MOVE HIM RIGHT-->		
	>277	*****		
	>278	KMRT		
2184: B4 C7	>279	LDY	DIGSPD-1,X	
2186: B9 95 2F	>280	LDA	SPDTBL,Y	
2189: 29 0B	>281	AND	#B	
218B: 4A	>282	LSR		
218C: 4A	>283	LSR		
218D: 4A	>284	LSR		
218E: B5 F5	>285	STA	TEMP7	;RT. SPD.
	>286	KMRT2		
2190: 20 3D 2C	>287	JSR	MRIGHT	;MOVE HIM RIGHT.
	>288			;USED T1,T2,T3,T4.
2193: B0 2B	>289	BCS	ABORT	;J CAN'T MV.
2195: B5 C0	>290	LDA	DOPOF,X	
2197: 29 07	>291	AND	#7	
2199: F0 0A	>292	BEQ	EMV	;DON'T MV AGAIN IF IN CC.
	>293			
219B: C6 F5	>294	DEC	TEMP7	
219D: 30 06	>295	BMI	EMV.	
219F: A9 02	>296	LDA	#2	
21A1: 25 D9	>297	AND	RANDOM	
21A3: F0 EB	>298	BEQ	KMRT2	;MV AGAIN
	>299	EMV		
21A5: 4C 3C 23	>300	JMP	ENDBOT	

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>302 *****
>303 * DIGGER IS BOTH ON A COL + IN A BAND.
>304 * (IF DIGIQ = NZ TRY TO KP GOING>
>305 *****
>306 NEWMOV
21A8: A9 03 >307 LDA #3
21AA: 85 F3 >308 STA TEMP5 ; INIT # DIR TO TRY.
>309 ;
21AC: B5 CB >310 LDA DIGIQ-1,X
21AE: F0 33 >311 BEQ NEWDIR
21B0: D6 CB >312 DEC DIGIQ-1,X
>313 ;
>314 * IF H/V POS=DO H/V POS THEN ABANDON CCELL RULE.
>315 *****
21B2: A5 BD >316 LDA DOBAND
21B4: 29 70 >317 AND #$70
21B6: D5 BD >318 CMP DOBAND,X
21B8: F0 06 >319 BEQ ABORT
>320 ;
21BA: A5 C0 >321 LDA DOPOF
21BC: D5 C0 >322 CMP DOPOF,X
21BE: D0 07 >323 BNE SAME1
>324 ;
>325 ABORT
21C0: A9 00 >326 LDA #0
21C2: 95 CB >327 STA DIGIQ-1,X
21C4: 4C E3 21 >328 JMP NEWDIR
>329 ;

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>331 * TRY TO CONTINUE IN SAME DIR->
>332 *****
>333 SAME1
21C7: B5 C5 >334 LDA DIGDIR-1,X
21C9: 29 03 >335 AND #3
21CB: C9 00 >336 CMP #UPD
21CD: D0 03 >337 BNE NM1
>338 ;RANDOM 2ND TRY AFT UP.
21CF: 4C 23 22 >339 JMP RNDUP
>340 NM1
21D2: C9 01 >341 CMP #DOWND
21D4: D0 03 >342 BNE NM2
>343 ;RANDOM 2ND TRY AFT DOWN.
21D6: 4C F1 21 >344 JMP RNDOWN
>345 NM2
21D9: C9 03 >346 CMP #LEFTD
21DB: D0 03 >347 BNE NM3
>348 ;RANDOM 2ND TRY AFT LEFT.
21DD: 4C 4F 22 >349 JMP RNDLFT
>350 NM3
>351 ;RND 2ND TRY AFT RIGHT.
21E0: 4C 35 22 >352 JMP RNDRT
>353 ;

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>355 * FIGURE WHICH DIR TBL TO USE-->
>356 *****
>357 NEWDIR
21E3: A5 BD >358 LDA DOBAND
21E5: 29 70 >359 AND #$70 ;KP BAND.
21E7: D5 BD >360 CMP DOBAND,X
21E9: B0 30 >361 BCS DIR25 ;JP MR DQ ABOVE OR EQ TO DIG.
>362 ;
>363 *****
>364 * MR DQ IS BELOW THIS DIGGER-->
>365 *****
21EB: A5 C0 >366 LDA DOPOF
21ED: D5 C0 >367 CMP DOPOF,X
21EF: D0 10 >368 BNE BELOW1
>369 ;RANDOM HOR TRY AFT VERT.
>370 RNDOWN
21F1: A0 12 >371 LDY #DLRU-DIRTBL
21F3: A9 10 >372 LDA #$10
21F5: 25 D9 >373 AND RANDOM
21F7: D0 03 >374 BNE BELOW0
21F9: 4C 63 22 >375 JMP HAVDIR
>376 BELOW0
>377 ;DRLU.
21FC: A0 0C >378 LDY #DRLU-DIRTBL
21FE: 4C 63 22 >379 JMP HAVDIR
>380 BELOW1
2201: 90 0C >381 BCC BLOL ;JP MR DQ IS TO LEFT.
>382 ;
>383 * MR DQ IS BELOW TO RIGHT->
>384 *****
2203: A0 0C >385 LDY #DRLU-DIRTBL
2205: 20 F7 22 >386 JSR HORV ;WHICH DISTANCE IS GREATER?
>387 ;H-V=
2208: B0 59 >388 BCS HAVDIR ;CHOOSE SHORTEST DISTANCE.
220A: A0 08 >389 LDY #RDUL-DIRTBL
220C: 4C 63 22 >390 JMP HAVDIR ;JP IF ON SAME BAND.

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>392 * MR DO IS BELOW TO LEFT->
>393 *****
>394 BLOL
220F: A0 12 >395 LDY #DLRU-DIRTB L
2211: 20 F7 22 >396 JSR HORV ;H-V=
>397 ;USED T7,T8.
2214: B0 4D >398 BCS HAVDIR ;CHOOSE SHORTEST DISTANCE.
2216: A0 02 >399 LDY #LDUR-DIRTB L
2218: 4C 63 22 >400 JMP HAVDIR
>401 ;
>402 *****
>403 * MR DO IS ABOVE OR EQ TO DIG->
>404 *****
>405 DIR25
2218: 08 >406 PHP ;SV BAND CMP STAT.
221C: A5 C0 >407 LDA DOPOF
221E: D5 C0 >408 CMP DOPOF,X
2220: D0 0E >409 BNE ABOVE1
>410 ;
>411 * SAME POS---FORCE VERT MOVE->
>412 *****
2222: 28 >413 PLP ;FIX SP
>414 ;RANDOM HOR TRY AFT VERT->
>415 RNDUP
2223: A0 06 >416 LDY #ULRD-DIRTB L
2225: A9 08 >417 LDA #8
2227: 25 D9 >418 AND RANDOM
2229: D0 02 >419 BNE ABOVE0
>420 ;URLD.
222B: A0 00 >421 LDY #URLD-DIRTB L
>422 ABOVE0
222D: 4C 63 22 >423 JMP HAVDIR
>424 ABOVE1
2230: 90 1A >425 BCC ABVL ;JP MR DO IS TO LEFT.
>426 * MR DO IS ABOVE TO RIGHT->
>427 *****
2232: 28 >428 PLP
2233: D0 0B >429 BNE ABOVE3 ;J N ON SAME BANDS.
>430 ;RANDOM VERT AFT HOR->
>431 RNDRT
2235: A0 08 >432 LDY #RDUL-DIRTB L
2237: A9 04 >433 LDA #4
2239: 25 D9 >434 AND RANDOM
223B: D0 0A >435 BNE ABOVE2
223D: 4C 63 22 >436 JMP HAVDIR
>437 ABOVE3
2240: A0 00 >438 LDY #URLD-DIRTB L
2242: 20 F7 22 >439 JSR HORV ;H-V=
>440 ;USED T7,T8.
2245: B0 1C >441 BCS HAVDIR ;CHOOSE SHORTEST DIR.
>442 ABOVE2
>443 ;RUDL
2247: A0 14 >444 LDY #RUDL-DIRTB L
2249: 4C 63 22 >445 JMP HAVDIR
>446 ;
>447 * MR DO IS ABOVE TO LEFT->
>448 *****
>449 ABVL
224C: 28 >450 PLP
224D: D0 0B >451 BNE ABOVE6 ;J N ON SAME BANDS.
>452 ;RANDOM VERT AFT TRY HORIZ->
>453 RNDLFT
224F: A9 10 >454 LDA #$10
2251: 25 D9 >455 AND RANDOM
2253: D0 0C >456 BNE ABOVE7

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2255:	A0 02	>457	LDY	#LUDR-DIRTBL	
2257:	4C 63 22	>458	JMP	HAVDIR	
		>459			
		>460			
		>461	ABOVE6		
225A:	A0 06	>462	LDY	#ULRD-DIRTBL	
225C:	20 F7 22	>463	JSR	HORV	;H-V=
		>464			;USED T7,T8.
225F:	B0 02	>465	BCS	HAVDIR	;CHOOSE SHORTEST DISTANCE.
		>466	ABOVE7		
		>467			;LUDR.
2261:	A0 0E	>468	LDY	#LUDR-DIRTBL	
		>469			
		>470	HAVDIR		
2263:	84 F4	>471	STY	TEMP6	;SV PTR TO DIRTBL.
2265:	4C CD 22	>472	JMP	SEARCH	;START SEARCH.


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>474 *****
>475 * TRY TO MOVE BADGUY RIGHT-->
>476 *****;
>477 MDRT
2268: B5 C0 >478 LDA DOPOF,X
226A: 18 >479 CLC
226B: 69 08 >480 ADC #8 ;TEST POS+8.
226D: A8 >481 TAY
226E: B5 BD >482 LDA DOBAND,X
2270: 20 79 2D >483 JSR CCTST ;SEE IF FIELD ON THERE.
>484 ;USED T1-T4.
2273: F0 03 >485 BEQ MDRT2
2275: 4C C7 22 >486 JMP NOGOOD ;JP IF ON.
>487 MDRT2
2278: 20 3D 2C >488 JSR MRIGHT ;TRY RT.
>489 ;USED T1-T3.
227B: 90 03 >490 BCC MDRT4 ;JP IF COULD GO LEFT.
227D: 4C C7 22 >491 JMP NOGOOD
>492 MDRT4
2280: A9 02 >493 LDA #RIGHTD ;NEW DIR.
2282: 4C E4 22 >494 JMP DIDMOV
>495 ;

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>497 *****
>498 * TRY TO MOVE BADGUY LEFT-->
>499 *****
>500 MDLT
2285: B5 BD >501 LDA DOBAND,X
2287: B4 C0 >502 LDY DOPOF,X
2289: F0 3C >503 BEQ NOGOOD ;JP IF AT EDGE.
228B: 88 >504 DEY ;POS-1.
228C: 20 79 2D >505 JSR CCTST ;FLD ON?
>506 ;USED T1-T4.
228F: D0 36 >507 BNE NOGOOD ;JP YES (NOT MOWED).
2291: 20 A6 2C >508 JSR MLEFT ;TRY LT.
>509 ;USED T1-T4.
2294: B0 31 >510 BCS NOGOOD
2296: A9 03 >511 LDA #LEFTD ;NEW DIR.
2298: 4C E4 22 >512 JMP DIDMOV
>513

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	>515	*****	
	>516	* TRY TO MOVE BADGUY DOWN-->	
	>517	*****	
	>518	MDDN	
229B: B5 BD	>519	LDA DOBAND,X	
229D: B4 C0	>520	LDY DOPOF,X	
	>521		;TEST IF FLD MOWED BELOW DIG->
229F: 38	>522	SEC	
22A0: E9 10	>523	SBC #10	;BAND-1.
22A2: 20 79 2D	>524	JSR CCTST	
	>525		;USED T1-T4.
22A5: D0 20	>526	BNE NOGOOD	
	>527		
22A7: 20 AF 2B	>528	JSR MDOWN	;TRY DN.
	>529		;USED T1.
22AA: B0 1B	>530	BCS NOGOOD	
22AC: A9 01	>531	LDA #DOWND	;NEW DIR.
22AE: 4C E4 22	>532	JMP DIDMOV	

	>534	*****
	>535	* TRY TO MOVE BADGUY UP-->
	>536	*****
	>537	MDUP
22B1: B5 BD	>538	LDA DOBAND,X
22B3: B4 C0	>539	LDY DOPOF,X
22B5: 18	>540	CLC
22B6: 69 10	>541	ADC #\$10 ;BAND+1.
22B8: 20 79 2D	>542	JSR CCTST ;MOWED?
	>543	;USED T1-T4.
22BB: D0 0A	>544	BNE NOGOOD ;JP NO.
	>545	;
22BD: 20 F7 2B	>546	JSR MUP ;TRY TO MOVE UP.
	>547	;USED T1.
22C0: B0 05	>548	BCS NOGOOD
	>549	;
22C2: A9 00	>550	LDA #UPD ;NEW DIR.
22C4: 4C E4 22	>551	JMP DIDMOV


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>553 *****
>554 * LAST MOVE TRIED WAS NOT LEGAL.
>555 * TRY SOMETHING ELSE-->
>556 *****
>557 NOGOOD

22C7: C6 F3 >558 DEC TEMP3
22C9: 30 29 >559 BMI NG99 ;JP IF TRIED ALL 4 DIRECTIONS.
22CB: E6 F4 >560 INC TEMP6 ;UP DIRTBL IDX.
>561 SEARCH
22CD: A4 F4 >562 LDY TEMP6 ;GET DIR-TO-TRY-NEXT IDX.
22CF: B9 24 23 >563 LDA DIRTBL,Y
22D2: C9 00 >564 CMP #UPD
22D4: F0 DB >565 BEQ MDUP ;JP IF UP.
22D6: C9 01 >566 CMP #DOWND
22DB: F0 C1 >567 BEQ MDDN ;JP IF DOWN.
22DA: C9 03 >568 CMP #LEFTD
22DC: F0 03 >569 BEQ MDLTJP ;JP IF LEFT.
22DE: 4C 68 22 >570 JMP MDRT ;ELSE MUST BE RIGHT.
>571 MDLTJP
22E1: 4C 85 22 >572 JMP MDLT
>573 ;
>574 * THE NEW MOVE HAS BEEN MADE:
>575 *****
>576 DIDMOV
22E4: 95 C5 >577 STA DIGDIR-1,X ;SV NEW DIR.
22E6: A5 F3 >578 LDA TEMP5
22EB: C9 03 >579 CMP #3 ;WAS IT FIRST TRY?
22EA: F0 08 >580 BEQ NG99 ;J Y.
22EC: A5 D9 >581 LDA RANDOM
22EE: 29 0F >582 AND #OF
22F0: 69 01 >583 ADC #1 ;MAKE NZ.
22F2: 95 CB >584 STA DIGIQ-1,X ;REINIT IQ.
>585 NG99
22F4: 4C 3C 23 >586 JMP ENDBOT ;JP DONE ALL BADGUYS/DIGGERS.
>587 ;

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>589 * WHICH DISTANCE IS GREATER H/V?
>590 *****
>591 HORV
22F7: A5 BD >592 LDA DOBAND
22F9: 29 70 >593 AND #$70
22FB: 38 >594 SEC
22FC: F5 BD >595 SBC DOBAND,X
22FE: 10 05 >596 BPL NOBOR ;J PLUS RESULT.
2300: 49 FF >597 EOR #$FF ;MAKE PLUS.
2302: 18 >598 CLC
2303: 69 01 >599 ADC #1
>600 NOBOR
2305: 4A >601 LSR
2306: 4A >602 LSR
2307: 4A >603 LSR
2308: 4A >604 LSR
2309: 85 F5 >605 STA TEMP7 ;SV V DIF.
>606 ;
230B: A5 C0 >607 LDA DOPOF
230D: 4A >608 LSR
230E: 4A >609 LSR
230F: 4A >610 LSR ; /8.
2310: 85 F6 >611 STA TEMP8
2312: 85 C0 >612 LDA DOPOF,X
2314: 4A >613 LSR
2315: 4A >614 LSR
2316: 4A >615 LSR ; /8.
2317: 38 >616 SEC
2318: E5 F6 >617 SBC TEMP8 ;DIGPOF-DOPOF.
231A: 10 05 >618 BPL NOBOR2
231C: 49 FF >619 EOR #$FF
231E: 18 >620 CLC
231F: 69 01 >621 ADC #1
>622 NOBOR2
2321: C5 F5 >623 CMP TEMP7
2323: 60 >624 RTS
>625 ;
>626 * NEXT DIRECTION TO TRY TABLE-->
>627 *****
>628 DIRTBL
>629 URDL
2324: 00 02 >630 DFB UPD,RIGHTD
>631 LDUR
2326: 03 01 00 >632
2329: 02 >633 DFB LEFTD,DOWND,UPD,RIGHTD
>634
232A: 00 03 >635 ULRD DFB UPD,LEFTD
>636
232C: 02 01 00 >637 RDUL DFB RIGHTD,DOWND,UPD,LEFTD
232F: 03 >638 DRLU DFB DOWND,RIGHTD
>639
2332: 03 00 01 >640 LUDR DFB LEFTD,UPD,DOWND,RIGHTD
2335: 02 >641 DLRU DFB DOWND,LEFTD
>642
2336: 01 03 >643 RUDL DFB RIGHTD,UPD,DOWND,LEFTD
>644
2338: 02 00 01 >645 ENDBOT
233B: 03

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43 *****
44 * APPLE CONTROL CODE *
45 *****
46 PUT MR.DO.APPLE
>1 */ MR.DO.APPLE LASTED 8/3/83.
>2 ;
>3 * APPLE FALLING TEST-->
>4 *****
>5 APPLE
233C: A5 8D >6 LDA APFALL
233E: 10 3B >7 BPL FALLMON ;JP IF AN APPLE IS FALLING.
2340: A5 84 >8 LDA FRAMEL ;TEST IF 1 CAN FALL.
2342: 29 03 >9 AND #3
2344: AA >10 TAX ;ONLY TEST 1 PER FRAME.
2345: B5 D0 >11 LDA APBAND,X
2347: 30 1B >12 BMI NF9 ;JP APPLE NOT ON.
2349: 29 70 >13 AND #$70
234B: F0 17 >14 BEQ NF9 ;JP SITTING IN BOTTOM BAND.
>15 * TEST IF FIELD ON UNDER APPLE->
>16 *****
234D: B5 D4 >17 LDA APPOF,X
234F: 29 07 >18 AND #7 ;ON COLUMN?
2351: C9 04 >19 CMP #4 ;SHOULD WE LOOK IN COLUMN TO RT.
2353: B5 D4 >20 LDA APPOF,X
2355: 90 02 >21 BCC NF5 ;JP NO.
2357: 69 07 >22 ADC #7
>23 NF5
2359: A8 >24 TAY ;Y=POS TO CHK.
235A: B5 D0 >25 LDA APBAND,X
235C: 38 >26 SEC
235D: E9 10 >27 SBC #$10 ;BAND-1.
235F: 20 B9 2D >28 JSR CCTEST
2362: F0 03 >29 BEQ STFALL ;JP FLD OFF.
>30 NF9
2364: 4C D7 24 >31 JMP FALL99 ;JP CAN'T FALL.
>32 ;
>33 * START APPLE FALLING-->
>34 *****
>35 STFALL
2367: 8A >36 TXA ;GET WHICH APPLE.
2368: 0A >37 ASL
2369: 0A >38 ASL
236A: 0A >39 ASL
236B: 0A >40 ASL
236C: 09 0F >41 ORA #$0F ;SET TIMER.
236E: B5 8D >42 STA APFALL
>43 ;START ROCKING IMG->
2370: B5 D0 >44 LDA APBAND,X
2372: 29 F0 >45 AND #$F0
2374: 09 01 >46 ORA #1 ;IMG IDX = 1.
2376: 95 D0 >47 STA APBAND,X
2378: 4C D7 24 >48 JMP FALL99

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>50 * AN APPLE IS ALREADY FALLING-->
>51 *****
>52 FALLMON
237B: 4A >53 LSR
237C: 4A >54 LSR
237D: 4A >55 LSR
237E: 4A >56 LSR
237F: AA >57 TAX ;X=WHICH AP IS FALLING.
2380: C6 8D >58 DEC APFALL ;DEC TIMER.
>59 ;IS TIME UP?
2382: A5 8D >60 LDA APFALL
2384: 29 0F >61 AND #$0F
2386: F0 03 >62 BEQ F03 ;JP TIME IS UP.
2388: 4C D7 24 >63 JMP FALL99
>64 *****
>65 * APPLE STAGE TIMER IS UP.
>66 * DECIDE TO KP FALLING, BREAK, OR SIT-->
>67 *****
>68 F03
238B: B5 D0 >69 LDA APBAND,X
238D: 29 0F >70 AND #$0F ;GET IMG IDX.
238F: C9 01 >71 CMP #1
2391: D0 05 >72 BNE F44
>73 ;START ROCK2 IMG->
2393: F6 D0 >74 INC APBAND,X ;IMG IDX=2.
2395: 4C 59 24 >75 JMP SETTIM
>76 F44
2398: C9 02 >77 CMP #2
239A: D0 15 >78 BNE F55 ;JP NOT 2ND ROCK STAGE.
239C: F6 D0 >79 INC APBAND,X ;IMG IDX=3 (FALLING APPLE).
>80 ;MOVE APPLE TO NEAREST COLUMN->
239E: B5 D4 >81 LDA APPOF,X
23A0: 29 07 >82 AND #7
23A2: C9 04 >83 CMP #4
23A4: B5 D4 >84 LDA APPOF,X
23A6: 90 02 >85 BCC F47 ;JP NO ADJUST RIGHT NEEDED.
23AB: 69 07 >86 ADC #7
>87 F47
23AA: 29 FB >88 AND #$FB ;RMV LO 3 BITS.
23AC: 95 D4 >89 STA APPOF,X
23AE: 4C 59 24 >90 JMP SETTIM
>91 F55
23B1: C9 03 >92 CMP #3 ;FALLING DOWN?
23B3: F0 18 >93 BEQ MIDAIR ;JP YES.
23B5: C9 04 >94 CMP #4 ;BREAKING STAGE 1?
23B7: F0 0F >95 BEQ F57 ;J Y.
>96 ;
>97 * MUST BE DONE W/LAST BRK STAGE->
>98 *****
>99 APRMV
23B9: A9 B0 >100 LDA #$B0
23BB: 95 D0 >101 STA APBAND,X ;APPLE OFF.
23BD: 85 BD >102 STA APFALL ;NO AP FALLING NOW.
23BF: A9 1F >103 LDA #$1F
23C1: 25 BE >104 AND ANIMB ;CLR DRAG BITS.
23C3: 85 BE >105 STA ANIMB
23C5: 4C D7 24 >106 JMP FALL99
>107 F57
23C8: F6 D0 >108 INC APBAND,X ;IMG IDX=4 =BRKING STAGE 2.
23CA: 4C 59 24 >109 JMP SETTIM
>110 ;

```



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>112
>113 * KEEP MOVING APPLE DOWN IF NO FIELD (OR NOT ALREADY AT BOTT
OM).
>114 *****
****
>115 MIDAIR
23CD: B5 D0 >116 LDA APBAND,X
23CF: 29 70 >117 AND #$70
23D1: D0 03 >118 BNE MIDS
23D3: 4C 62 24 >119 JMP SITBRK ;J AT BOTTOM.
>120 MIDS
23D6: B5 D0 >121 LDA APBAND,X
23D8: 38 >122 SEC
23D9: E9 10 >123 SBC #$10 ;BAND-1.
23DB: B4 D4 >124 LDY APPOF,X
23DD: 20 B9 2D >125 JSR CCTEST ;FLD ON BELOW?
23E0: F0 03 >126 BEQ MID15 ;JP FLD IS OFF?
23E2: 4C 62 24 >127 JMP SITBRK ;FLD IS ON.
>128 * MOVE APPLE DOWN (FLD IS OFF)
>129 *****
>130 MID15
23E5: 95 D0 >131 STA APBAND,X ;SV NEW BAND NUM.
23E7: 29 70 >132 AND #$70 ;KPBAND.
23E9: B5 F0 >133 STA TEMP2
23EB: A9 0A >134 LDA #$0A ;SET UP FALL/FRAME TIMER.
23ED: 05 BD >135 ORA APFALL
23EF: B5 BD >136 STA APFALL
>137 ;
>138 * TEST IF MR DO OR DIGS HIT BY APPLE->
>139 *****
23F1: A0 02 >140 LDY #2
>141 DRAGT
23F3: B9 CA 24 >142 LDA DMASK,Y
23F6: 25 BE >143 AND ANIM8 ;MR DO ALREADY HIT BY APPLE?
23F8: F0 10 >144 BEQ NYET ;J N.
>145 ;
>146 *MR DO/DIG BEING DRAGGED, MOVE HIM DOWN-->
>147 *****
23FA: B9 BD 00 >148 LDA DOBAND,Y
23FD: 30 54 >149 BMI NXTTST ;JP OFF
23FF: 38 >150 SEC
2400: E9 10 >151 SBC #$10 ;BAND-1
2402: 29 F0 >152 AND #$F0 ;LN=0
2404: 99 BD 00 >153 STA DOBAND,Y
2407: 4C 53 24 >154 JMP NXTTST
>155 ;

```

```

>157 * SHOULD MR DO/DIG BE DRAGGED?-->
>158 *****
>159 NYET
>160 ;TEST HORIZ->
240A: B9 C0 00 >161 LDA DOPOF,Y
240D: D5 D4 >162 CMP APPOF,X
240F: F0 16 >163 BEQ VTEST ;J SAME POS.
2411: 90 0E >164 BCC APRITE ;JP DOPOS<APPOS.
>165 ;DOPOS>APPOS.
2413: E9 07 >166 SBC #7
2415: 10 02 >167 BPL APLEFT ;J NO WRAP.
2417: A9 00 >168 LDA #0 ;DON'T LET WRAP.
>169 APLEFT
2419: D5 D4 >170 CMP APPOF,X
241B: F0 0A >171 BEQ VTEST ;J SAME.
241D: B0 34 >172 BCS NXTTST ;J NO HIT.
241F: 90 06 >173 BCC VTEST
>174 APRITE
2421: 69 07 >175 ADC #7
2423: D5 D4 >176 CMP APPOF,X
2425: 90 2C >177 BCC NXTTST ;J NO HIT.
>178 ;TEST VERT->
>179 VTEST
2427: B9 BD 00 >180 LDA DOBAND,Y
242A: 30 27 >181 BMI NXTTST ;J OFF.
242C: 29 70 >182 AND #$70 ;KP BAND.
242E: 38 >183 SEC
242F: E5 F0 >184 SBC TEMP2 ;AP BAND.
2431: F0 19 >185 BEQ DRAGIT
2433: C9 10 >186 CMP #$10 ;IS DO/DIG 1 ABOVE?
2435: D0 1C >187 BNE NXTTST ;J N.
>188 ;DROP HIM A BAND.
2437: B9 BD 00 >189 LDA DOBAND,Y
243A: 29 0F >190 AND #$0F ;LN=0?
243C: D0 03 >191 BNE DRAGEM ;J N.
243E: 98 >192 TYA
243F: F0 12 >193 BEQ NXTTST ;J MR DO.
>194 ;
>195 DRAGEM
2441: B9 BD 00 >196 LDA DOBAND,Y
2444: 38 >197 SEC
2445: E9 10 >198 SBC #$10
2447: 29 F0 >199 AND #$F0 ;LN=0
2449: 99 BD 00 >200 STA DOBAND,Y
>201 ;NOW DRAG HIM->
>202 * START DRAGGING MR DO OR DIG-->
>203 *****
>204 DRAGIT
244C: B9 CA 24 >205 LDA DMASK,Y
244F: 05 8E >206 ORA ANIMB ;SET BEING DRAGGED BIT.
2451: 85 8E >207 STA ANIMB
>208 ;
>209 NXTTST
2453: 88 >210 DEY
2454: 10 9D >211 BPL DRAGT ;TEST ALL 3.
2456: 4C D7 24 >212 JMP FALL99
>213 ;

```

2459: A9 0F >215 SETTIM
245B: 05 8D >216
245D: 85 8D >217
245F: 4C D7 24 >218
245F: 4C D7 24 >219

LDA #0F
ORA APFALL
STA APFALL
JMP FALL99

;SET UP 15 FRAME TIMER.,
;
;SET TIMER.,
;KP FALLING IF FLD IS NOT ON.

```

>221
>222 * APPLE CAN NOT FALL ANY FURTHER.
>223 * TEST IF APPLE HAS FALLEN MORE
>224 * THAN 1 BAND FROM ORGIN-->
>225 * ALSO RMV ANYONE DRAGGED DOWN.*
>226 *****
>227 SITBRK
2462: A5 8E >228 LDA ANIM8 ;GET DRAG FLAGS.
2464: 29 E0 >229 AND #$E0 ;ANY DRAGS?
2466: F0 3B >230 BEQ SB25 ;J N DRAGS.
>231 ;
2468: A9 40 >232 LDA #$40
246A: 25 8E >233 AND ANIM8
246C: F0 0A >234 BEQ SB7 ;J DIG 1 NOT DRAGGED.
246E: A9 81 >235 LDA #$81
2470: 85 BE >236 STA DIGBAND ;DIG 1 OFF.
>237 *****
>238 *REV VIDEO LETTER IF ALF MNSTR *
>239 *****
2472: 20 82 2B >240 JSR REVVID,
2475: 20 CD 24 >241 JSR ADD1K ;1000 PTS.
>242 SB7
2478: A9 20 >243 LDA #$20
247A: 25 8E >244 AND ANIM8
247C: F0 07 >245 BEQ SB70 ;J DIG2 NOT DRAGGED.
247E: A0 81 >246 LDY #$81
2480: 84 BF >247 STY DIGBAND+1 ;DIG2 OFF.
2482: 20 CD 24 >248 JSR ADD1K ;1000 PTS.
>249 SB70
2485: A5 8E >250 LDA ANIM8
2487: 10 17 >251 BPL SB88 ;J MR DO NOT DRAGGED.
>252 ;
2489: A9 81 >253 LDA #$81
248B: 85 BD >254 STA DOBAND ;DO OFF
248D: A9 20 >255 LDA #DODEAD
248F: 85 DA >256 STA MODE
2491: A9 00 >257 LDA #0
2493: 85 84 >258 STA FRAMEL
2495: A9 FF >259 LDA #$FF
2497: 85 BA >260 STA MSBAND ;BALL NOT AVAIL.
2499: A9 04 >261 LDA #4
249B: 85 BC >262 STA MISDIR ;BRIEF DELAY.
>263 ;
>264 * ADD BACK ANY DIGGERS NOT DEAD->
>265 *****
249D: 20 9B 20 >266 JSR INCINV
>267 SB88
24A0: 4C BC 24 >268 JMP BRKIT ;BRK APPLE-IT HIT SOMEONE.
>269 SB25
24A3: 85 D0 >270 LDA APBAND,X ;GET BAND.
24A5: 29 70 >271 AND #$70 ;KP BAND.
24A7: 38 >272 SEC
24A8: FD C6 24 >273 SBC ORGTBL,X ;SUB BAND NUM IT STARTED ON.
24AB: C9 F0 >274 CMP #$F0
24AD: D0 0D >275 BNE BRKIT ;JP IF FELL MORE THAN 1.
>276 ;LET APPLE SIT->
24AF: A9 80 >277 LDA #$80
24B1: 85 BD >278 STA APFALL ;APPLE DONE FALLING.
24B3: 85 D0 >279 LDA APBAND,X
24B5: 29 F0 >280 AND #$F0
24B7: 95 D0 >281 STA APBAND,X ;IMG IDX=0.
24B9: 4C D7 24 >282 JMP FALL99
>283 * START BREAKING ANIMATION->
>284 *****
>285 BRKIT

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24BC: F6 D0      >286      INC  APBAND,X      ;IMG IDX=4 (BRK STAGE 1).
                                >287      ;MAKE BREAKING SOUND->
24BE: A9 00      >288      LDA  #DEADSND
24C0: 20 41 2D   >289      JSR  HISND      ;HI PRIORITY SND.
                                >290      ;X DESTROYED.
24C3: 4C 59 24   >291      JMP  SETTIM
                                >292      *****
                                >293      * APPLE BAND ORGIN TABLE->
                                >294      ORGTBL
                                >295      *****
24C6: 70 50 30   >296      DFB  $70,$50,$30,$10 .
24C9: 10          >297      ;
                                >298      * MASKS FOR BEING DRAGBED(ANIMB)
                                >299      *****
                                >300      DMASK
24CA: 80 40 20   >301      DFB  $80,$40,$20 ;MR.DO,DIG1,DIG2.
                                >302      ADD1K
24CD: A9 50      >303      LDA  #$50
24CF: 20 23 2B   >304      JSR  ADDPTS
24D2: A9 50      >305      LDA  #$50
24D4: 4C 23 2B   >306      JMP  ADDPTS      ;J THEN RET TO CALLER OF THIS RTN.
                                >307      ;
                                >308      FALL99

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48 *****
49 * VERTICAL RETRACE CODE *
50 *****
51 PUT MR.DO.VINT
>1 */MR.DO.VINT LASTED: 8/1/83
>2 *
>3 *****
>4 * VERTICAL RETRACE *
>5 *****
>6 * WAIT FOR END OF BOTVI-->
>7 *****
>8 THEEND
24D7: 85 02 >9 STA ATWAIT
>10 ENDTIM
24D9: AD 84 02 >11 LDA TIMER
24DC: 30 FB >12 BMI ENDTIM
>13 ;
24DE: A9 A9 >14 LDA #TOPTIM
24E0: 85 02 >15 STA ATWAIT ;VINT WAIT #1
24E2: 8D 96 02 >16 STA TIME64 ;START VINT TIMER.
>17 ;UP FRAME COUNTER-->
24E5: E6 84 >18 INC FRAMEL
24E7: D0 1F >19 BNE ALF99 ;JP NO OV.
24E9: E6 85 >20 INC FRAMEH
>21 ;
>22 * ADVANCE CHANNEL SELECT-->
>23 *****
24EB: A9 02 >24 LDA #2
24ED: 25 8E >25 AND ANIM8 ;ALF MONSTER OUT?
24EF: D0 17 >26 BNE ALF99 ;J Y.
24F1: A5 8B >27 LDA ALPHA
24F3: 29 07 >28 AND #7
24F5: AA >29 TAX
24F6: E8 >30 INX
24F7: E0 05 >31 CPX #5
24F9: D0 02 >32 BNE UPALPH ;JP NO WRAP NEEDED.
24FB: A2 00 >33 LDX #0
>34 UPALPH
24FD: A9 FB >35 LDA #$FF-7
24FF: 25 8B >36 AND ALPHA
2501: 85 8B >37 STA ALPHA
2503: 8A >38 TXA
2504: 05 8B >39 ORA ALPHA
2506: 85 8B >40 STA ALPHA ;SV NEW CHANNEL SELECT.
>41 ALF99
>42 ;50 CY MAX-->
>43 * MAINTAIN CHERRY EATING TIMER-->
>44 *****
2508: A5 84 >45 LDA FRAMEL
250A: 29 01 >46 AND #1
250C: F0 0C >47 BEQ NOTIM ;JP NOT TIME TO UPDATE.
250E: A5 8C >48 LDA CHERRYT
2510: 29 1F >49 AND #$1F
2512: D0 04 >50 BNE EAT5 ;JP TIME NOT EXPIRED.
2514: 85 8C >51 STA CHERRYT ;START NOTE PTR OVER.
2516: F0 02 >52 BEQ NOTIM
>53 EAT5
2518: C6 8C >54 DEC CHERRYT ;DEC TIMER FOR EATING.
>55 NOTIM

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>57 *****
>58 *   TURN   GUN   OFF--->   *
>59 *****
>60 WAIT2
>61     LDA   #$02           ;RESET JOY BUTTONS.
>62     STA   ATWAIT        ;VINT WAIT #2.
>63     STA   ATBLNK        ;TURN GUN OFF.
>64 *ARE BOTH DIGGERS ON IF POSSIBLE?
>65 *****
251A: A9 02 >66     LDA   BDUR
251C: 85 02 >67     BPL   WAIT3         ;DON'T CHK IF MUSIC ON.
251E: 85 01 >68     LDA   DIGINV      ;ANY DIGS LEFT?
>69     BEQ   WAIT3         ;J N.
>70     ;
2528: A5 84 >71     LDA   FRAMEL
252A: 29 7F >72     AND   #$7F
252C: D0 20 >73     BNE   WAIT3         ;CHK EV 2 SECS.
252E: A2 00 >74     LDX   #0
2530: B5 BE >75     LDA   DIGBAND,X
2532: 30 05 >76     BMI   D10N        ;J DIG1 IS OFF.
2534: E8 >77     INX
2535: B5 BE >78     LDA   DIGBAND,X
2537: 10 15 >79     BPL   WAIT3         ;J HE'S ON TOO.
>80     D10N
>81     ;TURN HIM ON->
2539: A9 38 >82     LDA   #56
253B: 95 C1 >83     STA   DIGPOF,X
253D: A9 40 >84     LDA   #$40
253F: 95 BE >85     STA   DIGBAND,X
2541: A9 00 >86     LDA   #0
2543: 95 C4 >87     STA   DIGDAT,X
2545: B4 C8 >88     LDY   DIGSPD,X
2547: B9 6D 2F >89     LDA   DTIME,Y
254A: 95 CA >90     STA   DIGTIM,X    ;SET UP TIME TILL DIGGING.
254C: C6 BA >91     DEC   DIGINV      ;1 LESS DIG.

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254E: 85 02 >93 WAIT3
>94 STA ATWAIT ;VINT WAIT #3.
>95 * HAVE ALL LETTERS BEEN HAD?
>96 *****
2550: A5 DA >97 LDA MODE
2552: C9 10 >98 CMP #PLAY
2554: D0 21 >99 BNE WAIT4 ;J NOT PLAY MODE.
>100 ;
2556: A9 F8 >101 LDA #$F8
2558: 25 8B >102 AND ALPHA
255A: C9 F8 >103 CMP #$F8
255C: D0 19 >104 BNE WAIT4 ;J NOT ALL HAD.
255E: A9 00 >105 LDA #0
2560: 85 8B >106 STA ALPHA ;CLR REV VIDEO.
>107 * GIVE AN EXTRA MR.DO-->
>108 *****
2562: A5 DB >109 LDA DOINV
2564: C9 06 >110 CMP #6
2566: F0 02 >111 BEQ NOXTRA ;J HAVE MAX.
2568: E6 DB >112 INC DOINV ;ADD 1 TO INV.
>113 NOXTRA
256A: A9 00 >114 LDA #0 ;DANCE L TO R.
256C: 85 C0 >115 STA DOPOF
>116 ;
>117 * SET EXTRA MR DO MODE--->
>118 *****
256E: A9 70 >119 LDA #XTRADO ;SET EXTRA MR DO MODE.
2570: 85 DA >120 STA MODE
>121 ;
2572: A9 00 >122 LDA #SONG1
2574: 20 2C 2D >123 JSR SONG ;PLAY SONG

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>125 WAIT4
2577: 85 02 >126 STA ATWAIT ;VINT WAIT #4.
2579: A5 DA >127 LDA MODE
257B: C9 40 >128 CMP #GAMOVR
257D: D0 0B >129 BNE W44 ;J NOT GAME OVER MODE.
257F: A5 85 >130 LDA FRAMEH
2581: F0 66 >131 BEQ WAIT5
>132 ;
>133 * SET TRACK MODE-->
>134 *****
>135 SETTRK
2583: A9 50 >136 LDA #TRACK
2585: 85 DA >137 STA MODE ;SET TRACK MODE.
2587: 4C E9 25 >138 JMP WAIT5
>139 W44
258A: C9 30 >140 CMP #SELECT
258C: D0 0B >141 BNE W45
258E: A5 85 >142 LDA FRAMEH
2590: C9 0A >143 CMP #10
2592: D0 55 >144 BNE WAIT5
2594: F0 ED >145 BEQ SETTRK ;SET TRACK MODE->
>146 W45
2596: C9 20 >147 CMP #DODEAD
2598: D0 4F >148 BNE WAIT5
>149 ;
>150 * SEE IF MR.DO IS ON-->
>151 *****
259A: A5 84 >152 LDA FRAMEL
259C: C9 80 >153 CMP #$80
259E: F0 1A >154 BEQ W47 ;J TO TURN ON MR DO.
>155 ;
25A0: C9 40 >156 CMP #$40
25A2: D0 45 >157 BNE WAIT5
>158 ;
25A4: A9 FF >159 LDA #$FF
25A6: 85 BD >160 STA DOBAND ;DO OFF.
25A8: 85 BE >161 STA DIGBAND
25AA: 85 BF >162 STA DIGBAND+1
25AC: 85 BA >163 STA MSBAND ;PWRBALL NOT ON YET.
25AE: A9 00 >164 LDA #0
25B0: 85 C4 >165 STA DIGDAT
25B2: 85 C5 >166 STA DIGDAT+1
25B4: 85 8E >167 STA ANIM8 ;CLR DRAG BITS.
25B6: 85 BC >168 STA MISDIR ;SHORT DELAY.
25B8: F0 2F >169 BEQ WAIT5
>170 ;
>171 W47
25BA: A5 DB >172 LDA DOINV
25BC: D0 1B >173 BNE W46 ;J SOME LEFT.
>174 ;
>175 * GAME IS OVER!!!
>176 *****
>177 GOVER
25BE: A9 40 >178 LDA #GAMOVR ;START GAME OVER MODE.
25C0: 85 DA >179 STA MODE
>180 ;
25C2: A9 00 >181 LDA #0
25C4: 85 84 >182 STA FRAMEL
25C6: 85 85 >183 STA FRAMEH ;4 SEC GAME OVER SCREEN.
>184 ;GAME OVER SONG->
25C8: A9 31 >185 LDA #SONG2
25CA: 20 2C 2D >186 JSR SONG
>187 ;
25CD: A9 38 >188 LDA #56
25CE: 85 C0 >189 STA DOROE

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25D1: A9 FF	>190	LDA	##FF	
25D3: 85 BE	>191	STA	DIGBAND	;DIGS OFF.
25D5: 85 BF	>192	STA	DIGBAND+1	
25D7: D0 10	>193	BNE	WAIT5	
	>194			
	>195	*****		
	>196	* PUT MR DO BACK ON SCREEN *		
	>197	*****		
	>198	W46		
25D9: C6 DB	>199	DEC	DOINV	;1 LESS MR DO.
	>200			
25DB: A9 10	>201	LDA	#PLAY	
25DD: 85 DA	>202	STA	MODE	
25DF: A9 38	>203	LDA	#56	
25E1: 85 C0	>204	STA	DOPOF	
25E3: A9 00	>205	LDA	#0	
25E5: 85 BD	>206	STA	DOBAND	
25E7: 85 D8	>207	STA	PWRTIM	;SET PWRTIMER TO 0.

25E9: A9 02 >209 WAIT5
25EB: 85 02 >210
25ED: 85 00 >211
25EF: A5 DA >212
25F1: C9 80 >213
25F3: D0 0C >214
25F5: A5 84 >215
25F7: D0 08 >216
25F9: E6 81 >217
25FB: 20 A9 29 >218
25FE: 4C 05 26 >219
 >220
 >221

LDA #2
STA ATWAIT
STA ATSYNC
LDA MODE
CMP #RESUM
BNE WAIT6
LDA FRAMEL
BNE WAIT6
INC ROUND
JSR IROUND
JMP WAIT7

;VINT WAIT #5.
;BRING GUN HOME.

;BLACK SCREEN.

;START PLAY MODE AGAIN.

;

2601: 85 02	>223	WAIT6	STA	ATWAIT	;VINT WAIT #6
2603: E6 D9	>224		INC	RANDOM	;FREE RUNNING RANDOM #.
	>225				
	>226	WAIT7			
2605: 85 02	>227		STA	ATWAIT	
	>228				;
2607: A5 DA	>229		LDA	MODE	
2609: C9 70	>230		CMP	#XTRADO	
260B: D0 12	>231		BNE	NOX	;J NOT EXTRA MR DO MODE.
	>232				;DANCE R TO L.
260D: A5 B4	>233		LDA	FRAMEL	
260F: 29 01	>234		AND	#1	
2611: D0 0C	>235		BNE	NOX	
2613: E6 C0	>236		INC	DOPOF	
2615: 10 0B	>237		BPL	NOX	
	>238				;SET RESUME MODE->
2617: A9 B0	>239		LDA	#RESUM	
2619: 85 DA	>240		STA	MODE	
261B: A9 E8	>241		LDA	#\$E8	;SHORT DELAY.
261D: 85 B4	>242		STA	FRAMEL	
	>243	NOX			
261F: A9 00	>244		LDA	#0	
2621: 85 02	>245		STA	ATWAIT	
2623: 85 00	>246		STA	ATSYNC	
	>247				;
2625: A9 00	>248		LDA	#BLACK	
2627: 85 09	>249		STA	ATSCOL	;BLACK.
	>250				;


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>252 *  MANAGE DIGGING TIMERS-->
>253 *****
>254 EVO
2629: A5 DA >255 LDA MODE
262B: C9 10 >256 CMP #PLAY
262D: D0 3F >257 BNE EVO99
>258 ;
262F: A5 84 >259 LDA FRAMEL
2631: 29 7F >260 AND #$7F
2633: D0 39 >261 BNE EVO99 ;CHK EV 2 SEC.
>262 ;
>263 EVOCHK
2635: A2 01 >264 LDX #1
>265 EVO2
2637: B5 BE >266 LDA DIGBAND,X
2639: 30 30 >267 BMI EVO88 ;J NOT ON
263B: B5 CA >268 LDA DIGTIM,X
263D: 10 1B >269 BPL EVO7 ;J NOT DIGGING YET.
>270 ;
263F: 29 0F >271 AND #$0F
2641: D0 26 >272 BNE DTIM9 ;J NOT TIME TO TURN BACK TO BADGUY
>273 ;
>274 *  TURN DIGGER BACK TO BADGUY->
>275 *****
2643: A9 00 >276 LDA #0
2645: 95 C4 >277 STA DIGDAT,X ;CHG IMG
2647: B4 C8 >278 LDY DIGSPD,X
2649: B9 6D 2F >279 LDA DTIME,Y
264C: 95 CA >280 STA DIGTIM,X ;SET TIME TO DIG NEXT.
>281 EVO5
264E: 8A >282 TXA
264F: D0 18 >283 BNE DTIM9 ;J N DIG1.
>284 ;CLR ALF OUT FLAG->
2651: A9 FD >285 LDA #$FF-2
2653: 25 BE >286 AND ANIM8
2655: 85 BE >287 STA ANIM8
2657: 4C 69 26 >288 JMP DTIM9
>289 EVO7
265A: D0 0D >290 BNE DTIM9 ;J NOT TIME TO DIG.
>291 *  TURN BADGUY TO DIGGER->
>292 *****
265C: A9 02 >293 LDA #2
265E: 95 C4 >294 STA DIGDAT,X ;CHG IMG.
2660: B4 C8 >295 LDY DIGSPD,X
>296 ;GET HOW LONG TO DIG->
2662: B9 81 2F >297 LDA DDUR,Y
2665: 95 CA >298 STA DIGTIM,X
2667: D0 E5 >299 BNE EVO5 ;J ALWAYS.
>300 DTIM9
2669: D6 CA >301 DEC DIGTIM,X
>302 EVO88
266B: CA >303 DEX
266C: 10 C9 >304 BPL EVO2 ;DO BOTH.
>305 ;
>306 EVO99
266E: A5 DA >307 LDA MODE
2670: C9 10 >308 CMP #PLAY
2672: D0 42 >309 BNE NOCHER
>310 ;
2674: A5 84 >311 LDA FRAMEL
2676: 29 01 >312 AND #1
2678: AA >313 TAX
2679: B5 CA >314 LDA DIGTIM,X
267B: 10 09 >315 BPL NOTDIG

```

```

>316
>317 * DO DIGGER VS. CHERRY HIT->
>318 *****
267D: B5 BE >319 LDA DIGBAND,X
267F: 30 05 >320 BMI NOTDIG ;J OFF.
2681: B4 C1 >321 LDY DIGPOF,X
2683: 20 7F 2A >322 JSR CHIT
>323 NOTDIG
>324 * DO MR.DO VS CHERRY HIT->
>325 *****
2686: A5 BD >326 LDA DOBAND
2688: 30 2C >327 BMI NOCHER ;J DO OFF
268A: A4 C0 >328 LDY DOPOF
268C: 20 7F 2A >329 JSR CHIT ;MR DO V. CHERRIES.
268F: 90 25 >330 BCC NOCHER ;J NO HIT CHERRY.
>331 ;
>332 * MAKE CHERRY SOUND + ADD PTS->
>333 *****
2691: A5 8C >334 LDA CHERRYT
>335 ;GET WHICH CHERRY WAS ATE->
2693: 4A >336 LSR
2694: 4A >337 LSR
2695: 4A >338 LSR
2696: 4A >339 LSR
2697: 4A >340 LSR
2698: AA >341 TAX
>342 ;
2699: BD 1D 2B >343 LDA CHRPTS,X
269C: 20 23 2B >344 JSR ADDPTS
>345 ;
269F: BD 17 2B >346 LDA CNOTE,X
26A2: 20 3D 2D >347 JSR SOUND ;PLAY CHERRY SOUND.
>348 ;X DESTROYED.
>349 ;UP CHERRY PTR->
26A5: A5 8C >350 LDA CHERRYT
26A7: 29 E0 >351 AND #$E0
26A9: 18 >352 CLC
26AA: 69 20 >353 ADC #$20
26AC: C9 C0 >354 CMP #$C0 ;ATE 6 ALREADY?
26AE: D0 02 >355 BNE CTIME ;J N.
26B0: A9 00 >356 LDA #0
>357 CTIME
26B2: 09 1F >358 ORA #$1F ;SET TIMER.
26B4: 85 8C >359 STA CHERRYT
>360 NOCHER

```

```

53 *****
54 * JOYSTICK & SWITCH READING *
55 *****
56 PUT MR.DO.JOYSTICK
>1 */ MR.DO.JOYSTICK LASTED:8/14/83
>2 *****
>3 * JOYSTICK READ RTN -> *
>4 *****
26B6: A5 89 >5 LDA BDUR
26B8: 30 03 >6 BMI JOYRD ;JP NO MUSIC ON.
>7 NJOY
26BA: 4C 67 27 >8 JMP BUTTON ;SKIP JOY & BUTTON.
>9 JOYRD
26BD: A5 DA >10 LDA MODE
26BF: C9 10 >11 CMP #PLAY
26C1: D0 F7 >12 BNE NJOY
>13 ;
26C3: A5 BD >14 LDA DOBAND
26C5: 30 F3 >15 BMI NJOY
26C7: A5 84 >16 LDA FRAMEL
26C9: 29 01 >17 AND #1
26CB: D0 ED >18 BNE NJOY ;ONLY READ EVERY OTHER FRAME.
26CD: A9 80 >19 LDA #$80
26CF: 25 8E >20 AND ANIM8
26D1: D0 E7 >21 BNE NJOY ;JP IF DO BEING DRAGGED DOWN.
>22 ;
26D3: A9 01 >23 LDA #1
26D5: 85 F5 >24 STA TEMP7 ;INIT TRIES.
>25 ;
26D7: AD 80 02 >26 LDA JOYDAT ;GET JOY-
26DA: 49 FF >27 EOR #$FF
26DC: 85 F7 >28 STA TEMP9
26DE: A9 10 >29 LDA #JOYAUP
26E0: 25 F7 >30 AND TEMP9
26E2: F0 03 >31 BEQ JOY1 ;JP NOT UP.
26E4: 4C 3E 27 >32 JMP UP
>33 JOY1
26E7: A9 20 >34 LDA #JOYADN
26E9: 25 F7 >35 AND TEMP9
26EB: D0 42 >36 BNE DOWN
26ED: A9 80 >37 LDA #JOYART
26EF: 25 F7 >38 AND TEMP9
26F1: D0 2D >39 BNE RIGHT
26F3: A9 40 >40 LDA #JOYALT
26F5: 25 F7 >41 AND TEMP9
26F7: D0 18 >42 BNE LEFT
>43 ;
>44 * THERE'S NO JOY, BUT KEEP MR DO
>45 * MOVING UNTIL AT A CHAR CELL.
>46 *****
26F9: A5 BD >47 LDA DOBAND
26FB: 29 0F >48 AND #$0F
26FD: F0 03 >49 BEQ CHKHRZ ;JP IF BETWEEN 2 BANDS.
26FF: 4C 4B 27 >50 ILL1 JMP ILLEG
>51 CHKHRZ
2702: A5 C0 >52 LDA DOPDF
2704: 29 07 >53 AND #7
2706: D0 F7 >54 BNE ILL1 ;JP NOT IN A CHAR CELL.
>55 ;STOP ANIMATION.
2708: A9 FE >56 LDA #$FE
270A: 25 8E >57 AND ANIM8
270C: 85 8E >58 STA ANIM8
270E: 4C 67 27 >59 JMP JOY99
>60
>61 * TRY TO MOVE MR DO LEFT->

```

2711: A2 00
2713: 20 A6 2C
2716: A9 03
2718: 90 4B
271A: C5 B8
271C: F0 49
271E: D0 2B

>62
>63
>64
>65
>66
>67
>68
>69
>70

LEFT
LDX #0
JSR MLEFT
LDA #3 ;LEFT.
BCC JOY98 ;J LEGAL MV. MADE.
CMP LASTJY
BEQ JOY99 ;J LAST JY SAME AS 1 JUST TRIED.
BNE ILLEG

>71
>72
>73
>74

* TRY TO MOVE MR DO RIGHT-> *

RIGHT

2720: A2 00
2722: 20 3D 2C
2725: A9 02
2727: 90 3C
2729: C5 B8
272B: F0 3A

>75
>76
>77
>78
>79
>80

LDX #0
JSR MRIGHT
LDA #2 ;RIGHT.
BCC JOY98 ;J LEGAL MV MADE.
CMP LASTJY
BEQ JOY99 ;J ALREADY TRIED THAT DIR.

272D: D0 1C

>81
>82

BNE ILLEG

>83
>84

>85
>86
>87

* TRY TO MOVE MR DO DOWN-> *

DOWN

272F: A2 00
2731: 20 AF 2B
2734: A9 01
2736: 90 2D
2738: C5 B8
273A: F0 2B
273C: D0 0D

>88
>89
>90
>91
>92
>93
>94

LDX #0
JSR MDOWN
LDA #1 ;DOWN.
BCC JOY98 ;J LEGAL MV MADE.
CMP LASTJY
BEQ JOY99
BNE ILLEG

>95
>96

* TRY TO MOVE MR. DO UP-> *

>97
>98

UP

273E: A2 00
2740: 20 F7 2B
2743: A9 00
2745: 90 1E
2747: C5 B8
2749: F0 1C

>99
>100
>101
>102
>103
>104

LDX #0
JSR MUP
LDA #0 ;UP.
BCC JOY98 ;J LEGAL MV. MADE.
CMP LASTJY
BEQ JOY99

>105
>106

>107
>108

* AN ILLEGAL JOY MOVE WAS TRIED.
* TRY LAST LEGAL DIRECTION--->.

>109
>110

ILLEG

274B: C6 F5
274D: 30 1B
274F: A5 B8
2751: F0 EB
2753: C9 01
2755: F0 DB

>111
>112
>113
>114
>115
>116

DEC TEMP7 ;DEC TRIES.
BMI JOY99 ;J ALREADY TRIED LASTJY.
LDA LASTJY
BEQ UP ;UP=0.
CMP #1
BEQ DOWN ;DOWN=1.

2757: A5 C0
2759: 29 07
275B: F0 0A

>117
>118
>119
>120

LDA DPOF
AND #7
BEQ JOY99

275D: A5 B8
275F: C9 02
2761: F0 BD
2763: D0 AC

>121
>122
>123
>124
>125

LDA LASTJY
CMP #2
BEQ RIGHT ;RIGHT=2
BNE LEFT ;LEFT=3.

>126
>127

JOY98

STA LASTJY

2765: 85 B8

>127

STA LASTJY

>128 JOY99

```

>130 *****
>131 BUTTON
2767: A5 84 >132 LDA FRAMEL
2769: 29 01 >133 AND #1
276B: F0 61 >134 BEQ NOBUT
>135 ;
276D: A5 3C >136 LDA ATJBA ;RD JOY BUTTON A.
276F: 30 5D >137 BMI NOBUT ;JP BUTTON NOT DOWN.
>138 ;IS GAME OVER???
2771: A5 DA >139 LDA MODE
2773: C9 50 >140 CMP #TRACK
2775: F0 04 >141 BEQ BUT4 ;J TRYING TO START GAME OVER.
2777: C9 30 >142 CMP #SELECT
2779: D0 06 >143 BNE BUT5
>144 BUT4
277B: 20 89 29 >145 JSR IGAME ;START GAME OVER.
277E: 4C CE 27 >146 JMP NOBUT
>147 ;
>148 * TRYING TO FIRE POWERBALL-->
>149 *****
>150 BUT5
2781: C9 10 >151 CMP #PLAY
2783: D0 49 >152 BNE NOBUT ;J NOT PLAY MODE.
2785: A5 89 >153 LDA BDUR
2787: 10 45 >154 BPL NOBUT ;J MUSIC ON.
2789: A5 8E >155 LDA ANIMS ;BEING DRAGGED?
278B: 30 41 >156 BMI NOBUT ;J Y.
278D: A5 BA >157 LDA MSBAND
278F: 30 3D >158 BMI NOBUT ;J BALL IS NOT AVAIL.
2791: A5 BC >159 LDA MISDIR
2793: 10 39 >160 BPL NOBUT ;J BALL ALREADY MOVING(SHOT).
>161 ;
>162 * SHOOT PWR BALL->
>163 *****
2795: A5 C0 >164 LDA DOPOF
2797: A6 B8 >165 LDX LASTJY ;GET MR DO DIR.
2799: 18 >166 CLC
279A: 7D 23 28 >167 ADC PWROFF,X
279D: 30 2F >168 BMI NOBUT ;IF AT EDGE,NO PWRBALL.
279F: 85 BB >169 STA MISPOF
>170 ;
27A1: BD 1F 28 >171 LDA FWRLN,X
27A4: 85 B9 >172 STA MISLN
>173 ;
>174 * SHOOT ONLY IF FLD OFF->
>175 *****
27A6: E0 00 >176 CPX #0
27A8: F0 06 >177 BEQ SAM1 ;J IF UP.
27AA: A5 BD >178 LDA DOBAND
27AC: 29 0F >179 AND #$0F
27AE: D0 05 >180 BNE BLOW1
>181 SAM1
27B0: A5 BD >182 LDA DOBAND
27B2: 4C BA 27 >183 JMP FTST
>184 BLOW1
27B5: A5 BD >185 LDA DOBAND
27B7: 38 >186 SEC
27B8: E9 10 >187 SBC #$10 ;1 LOWER.
>188 FTST
27BA: A6 C0 >189 LDX DOPOF
27BC: 20 4E 2D >190 JSR FMTEST ;FLD ON?
27BF: D0 0D >191 BNE NOBUT ;J Y.
27C1: 4A >192 LSR
27C2: 4A >193 LSR

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27C3:	4A		>194	LSR	
27C4:	4A		>195	LSR	
			>196	SAMEBD	
27C5:	85	BA	>197	STA	MSBAND
27C7:	A6	BB	>198	LDX	LASTJY
27C9:	BD	27 28	>199	LDA	PWRDIR, X
27CC:	85	BC	>200	STA	MISDIR
			>201	NOBUT	

```

>203 *****
>204 * RESET, SELECT & COLOR *
>205 * SWITCH READING---> *
>206 *****
>207 SWIT
27CE: AD 82 02 >208 LDA SWITCH ;RD SWITCHES.
27D1: 49 FF >209 EOR #$FF
27D3: 29 01 >210 AND #SWIRES ;RESET?
27D5: F0 03 >211 BEQ NORES ;JP NO.
27D7: 20 89 29 >212 JSR IGAME ;START GAME OVER
>213 NORES
>214 * TEST FOR GAME SELECT SWITCH-->
>215 *****
27DA: A5 84 >216 LDA FRAMEL
27DC: 29 1F >217 AND #$1F
27DE: D0 27 >218 BNE NOSEL
>219 ;
27E0: AD 82 02 >220 LDA SWITCH
27E3: 49 FF >221 EOR #$FF
27E5: 29 02 >222 AND #SWISEL ;JP SELECT NOT DOWN.
27E7: F0 1E >223 BEQ NOSEL
27E9: 85 84 >224 STA FRAMEL
27EB: 85 85 >225 STA FRAMEH
>226 ;SET SELECT MODE->
27ED: A5 DA >227 LDA MODE
27EF: C9 30 >228 CMP #SELECT
27F1: D0 0C >229 BNE SEL2 ;DON'T UP GAME NUM 1ST TIME.
27F3: E6 80 >230 INC GAME ;UP GAME NUM.
27F5: A5 80 >231 LDA GAME
27F7: C9 04 >232 CMP #4 ;MAX GAME NUM?
27F9: D0 0C >233 BNE NOSEL ;J NO WRAP.
>234 ;
27FB: A9 00 >235 LDA #0
27FD: 85 80 >236 STA GAME ;WRAP.
>237 SEL2
27FF: A9 30 >238 LDA #SELECT
2801: 85 DA >239 STA MODE
2803: A9 38 >240 LDA #56
2805: 85 C0 >241 STA DOPOF
>242 NOSEL
2807: A5 81 >243 LDA ROUND
2809: 29 0F >244 AND #$0F
280B: AB >245 TAY
280C: A2 04 >246 LDX #4 ;SAME COL FOR B/W.
280E: AD 82 02 >247 LDA SWITCH
2811: 49 FF >248 EOR #$FF
2813: 29 08 >249 AND #SWICOL
2815: D0 03 >250 BNE BLKWHT
2817: BE 2B 28 >251 LDX FLDCOL,Y
>252 BLKWHT
281A: 86 8F >253 STX FCOLOR
281C: 4C 3B 28 >254 JMP ENDJOY

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>256 ;
>257 * STARTING PWRBALL LINENUMS->
>258 *****
>259 PWRLN

281F: 0E 01 07
2822: 07 >260 DFB 14,1,7,7 ;U,D,R,L
>261 ;
>262 * PWRBALL STARTING POS OFFSETS FR.MRDO
>263 *****
>264 PWROFF

2823: 03 03 07
2826: 00 >265 DFB 3,3,7,0 ;UDRL
>266 ;
>267 * PWRBALL STARTING DIRECTIONS->
>268 *****
>269 PWRDIR

2827: 02 00 00
282A: 01 >270 DFB 2,0,0,1 ;MRDO DIR=UDRL.
>271 ;PWR DIR=UR,DR,DR,DL.
>272 ;
>273 * ORCHARD COLOR TABLE
>274 *****
>275 FLDCOL

282B: D2 92 E2
282E: C4 >276 DFB $D2,$92,$E2,$C4
282F: 04 74 F2 >277 DFB $04,$74,$F2,$52
2832: 52 >278 DFB $A4,$D4,$B4,$64
2833: A4 D4 B4 >279 DFB $30,$82,$E4,$A4
2836: 64 >280 ;
2837: 30 82 E4 >281 ENDJOY
283A: A4 >282 ;

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```

283B: A5 DA >5
283D: C9 10 >6
283F: D0 0A >7
2841: A5 BA >8
2843: 10 12 >9
>10
>11
>12
2845: A5 BA >13
2847: 29 1F >14
2849: F0 03 >15
>16
284B: 4C 86 29 >17
>18
284E: C6 BC >19
2850: 10 F9 >20
>21
>22
>23
>24
2852: A9 14 >25
2854: 20 37 2D >26
>27
2857: A5 BC >28
2859: 10 31 >29
>30
>31
>32
>33
285B: A5 BD >34
285D: 29 0F >35
285F: AA >36
2860: BD 71 29 >37
2863: 85 B9 >38
2865: A5 BD >39
2867: 4A >40
2868: 4A >41
2869: 4A >42
286A: 4A >43
286B: AB >44
286C: E0 0A >45
286E: 90 01 >46
2870: 88 >47
>48
2871: 84 BA >49
>50
>51
>52
>53
2873: A5 C0 >54
2875: A6 B8 >55
2877: 18 >56
2878: 7D 6D 29 >57
287B: 10 0A >58
287D: C9 80 >59
287F: D0 04 >60
2881: A9 7E >61

```

```

*****
* POWERBALL CONTROL CODE *
*****
PUT MR.DO.PWRBALL
*/MR.DO.PWRBALL LASTED: 8/2/83
*****
* POWERBALL MONITOR--> *
*****
LDA MODE
CMP #PLAY
BNE NOPWR ;J NOT PLAY MODE.
LDA MSBAND
BPL PWR2 ;J BALL IS ON OR AVAIL.
*****
* BALL IS NOT ON YET--> *
*****
LDA FRAMEL
AND #$1F ;CHK EV 1/2 SEC.
BEQ PWRDEC
NOPWR
JMP PWR99 ;J NOT TIME TO DEC COUNT.
PWRDEC
DEC MISDIR ;DEC TIMER.
BPL NOPWR ;J TIME NOT UP.
*****
* MAKE BALL AVAILABLE--> *
*****
AVAIL
LDA #BELLS ;BALL AVAIL SND.
JSR LOSND ;LO PRIORITY SND.
PWR2
LDA MISDIR
BPL PWRO ;J BALL MOVING.
*****
* KEEP BALL IN MR DO'S HAND-> *
*****
;SET UP VERT POS->
LDA DOBAND
AND #$0F
TAX ;LN.
LDA FWLN,X
STA MISLN
LDA DOBAND
LSR
LSR
LSR
TAY ;Y=MR DO BAND.
CPX #10 ;MRDO+LN>10?
BCC SAME ;J Y.
DEY ;MAKE MS BAND 1 LESS THAN MR.DG.
SAME
STY MSBAND
;
*****
* MAKE HORIZ POF= MR DO'S HAND *
*****
LDA DOPOF
LDX LASTJY
CLC
ADC PWPOF,X
BPL PP3
CMP #128
BNE PP2 ;J NOT LEFT EDGE.
LDA #127

```

2881:	A9 7F	>61		BNE PP2		;DON'T LET OFF EDGE.
2883:	D0 02	>62		LDA #127		
		>63	PP2	BNE PP3		;RT EDGE.
2885:	A9 00	>64		LDA #0		;DON'T LET OFF LEFT SIDE.
		>65	PP3			
2887:	B5 BB	>66		STA MISPOF		
2889:	4C 86 29	>67		JMP PWR99		
		>68				

```

>70 * BALL IS ON-DO HIT V.MR DO&DIGS
>71 *****
>72 PWR0
288C: A2 00 >73 LDX #0 ;DO IDX.
288E: A5 84 >74 LDA FRAMEL
2890: 29 01 >75 AND #1
2892: D0 0F >76 BNE PWR3 ;J NOT TIME TO TEST MR DO.
2894: 20 A9 2F >77 JSR PWRHIT
2897: B0 03 >78 BCS CATCH ;J DO CAUGHT BALL.
2899: 4C DC 28 >79 JMP PWRMOV
>80 ;
>81 * MR DO CAUGHT BALL->
>82 *****
>83 CATCH
289C: A9 81 >84 LDA #$81
289E: B5 BC >85 STA MISDIR ;BALL AVAIL NOW.
28A0: 4C 57 28 >86 JMP PWR2
>87 ;
>88 * POWERBALL VS DIGS TEST-->
>89 *****
>90 PWR3
28A3: A2 02 >91 LDX #2
>92 PWR55
28A5: 20 A9 2F >93 JSR PWRHIT
28A8: B0 06 >94 BCS PWR66 ;J HIT.
28AA: CA >95 DEX
28AB: D0 F8 >96 BNE PWR55 ;TEST OTHER DIG.
28AD: 4C DC 28 >97 JMP PWRMOV ;J NO HIT.
>98 ;
>99 * ONE OF THE DIGGERS IS HIT->
>100 *****
>101 PWR66
28B0: 8A >102 TXA
28B1: 48 >103 PHA ;SV X.
28B2: A9 00 >104 LDA #DEAD6ND
28B4: 20 41 2D >105 JSR HISND ;MAKE DYING SOUND.
28B7: 68 >106 PLA
28B8: AA >107 TAX ;RSTR X.
>108 ;KILL THAT DIGGER->
28B9: A9 80 >109 LDA #$80
28BB: 95 BD >110 STA DOBAND,X
28BD: E0 01 >111 CPX #1
28BF: D0 03 >112 BNE PWR84 ;J NOT DIG1.
>113 ;
>114 *****
>115 *REVERSE VIDEO LETTER IF ALF MSTR
>116 *****
28C1: 20 82 2B >117 JSR REVVID
>118 ;
>119 *****
>120 * SET TIME B4 PWRBALL AVAIL NEXT
>121 *****
>122 PWR84
28C4: A9 50 >123 LDA #$50
28C6: 20 23 2B >124 JSR ADDPTS
>125 ;
28C9: A4 D8 >126 LDY PWRTIM
28CB: B9 81 29 >127 LDA PTIME,Y
28CE: B5 BC >128 STA MISDIR
28D0: C8 >129 INY
28D1: C0 05 >130 CPY #5
28D3: D0 02 >131 BNE PWR86
28D5: A0 00 >132 LDY #0
>133 PWR86
28D7: 84 D8 >134 CTX PWRTIM

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28D7: 84 DB >134
>135
28D9: 4C 86 29 >136

STY PWRTIM
JMP PWR99


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>138 *****
>139 * MOVE BALL HORIZONTALLY-->
>140 *****
>141 PWRMOV
28DC: A5 BC >142 LDA MISDIR
28DE: 29 01 >143 AND #1 ;GET HORIZ DIR.
28E0: 08 >144 PHP
28E1: A9 01 >145 LDA #1
28E3: 28 >146 PLP
28E4: F0 02 >147 BEQ PRIGHT
28E6: A9 FF >148 LDA #$FF ;LEFT
>149 PRIGHT
28E8: 18 >150 CLC
28E9: 65 BB >151 ADC MISPOF
28EB: C9 80 >152 CMP #128
28ED: F0 14 >153 BEQ HCHG
28EF: C9 FF >154 CMP #$FF
28F1: F0 10 >155 BEQ HCHG
28F3: 85 BB >156 STA MISPOF
28F5: A5 BA >157 LDA MSBAND
28F7: 0A >158 ASL
28F8: 0A >159 ASL
28F9: 0A >160 ASL
28FA: 0A >161 ASL
28FB: AA >162 TAX
28FC: A6 BB >163 LDX MISPOF
28FE: 20 4E 2D >164 JSR FMTEST
2901: F0 0E >165 BEQ VCHK ;JP FLD OFF.
>166 HCHG
2903: A9 01 >167 LDA #1
2905: 45 BC >168 EOR MISDIR
2907: 85 BC >169 STA MISDIR ;CHG HOR DIR.
2909: A9 08 >170 LDA #BEEP
290B: 20 3D 2D >171 JSR SOUND ;LD PRIORITY SND.
>172 ;X DESTROYED.
>173 HOR99
290E: 4C 86 29 >174 JMP PWR99

```

	>176	*****	
	>177	* MOVE POWERBALL VERTICALLY--> *	
	>178	*****	
	>179	VCHK	
2911: A5 BC	>180	LDA MISDIR	
2913: 29 02	>181	AND #2	
2915: F0 37	>182	BEQ PDOWN	
	>183	*****	
	>184	* MOVE POWERBALL UP-->	
	>185	*****	
2917: A6 B9	>186	LDX MISLN	
2919: E0 0E	>187	CPX #14	
291B: F0 05	>188	BEQ PUR4	;J TO CHANGE BANDS.
291D: E6 B9	>189	INC MISLN	
291F: 4C B6 29	>190	JMP PWR99	
	>191	PUR4	
2922: A6 BA	>192	LDX MSBAND	
2924: E0 07	>193	CPX #7	
2926: F0 18	>194	BEQ VCHG	;J AT TOP OF SCREEN.
2928: E6 BA	>195	INC MSBAND	
292A: A5 BA	>196	LDA MSBAND	
292C: 0A	>197	ASL	
292D: 0A	>198	ASL	
292E: 0A	>199	ASL	
292F: 0A	>200	ASL	
2930: A6 BB	>201	LDX MISPOF	
2932: 20 4E 2D	>202	JSR FMTEST	
2935: D0 07	>203	BNE VCHG1	;J FLD OFF.
2937: A9 01	>204	LDA #1	
2939: B5 B9	>205	STA MISLN	
293B: 4C B6 29	>206	JMP PWR99	
	>207	VCHG1	
293E: C6 BA	>208	DEC MSBAND	
	>209	VCHG	
2940: A9 02	>210	LDA #2	
2942: 45 BC	>211	EOR MISDIR	
2944: B5 BC	>212	STA MISDIR	
	>213		
2946: A9 0E	>214	LDA #BOOP	
2948: 20 3D 2D	>215	JSR SOUND	;LO PRIORITY SND.
	>216		;X DESTROYED.
	>217	VERT99	
294B: 4C B6 29	>218	JMP PWR99	
	>219	*****	
	>220	* MOVE POWERBALL DOWN-->	
	>221	*****	
	>222	PDOWN	
294E: C6 B9	>223	DEC MISLN	
2950: D0 34	>224	BNE PWR99	;J DON'T HAVE TO CHG BANDS.
2952: A5 BA	>225	LDA MSBAND	
2954: F0 EA	>226	BEQ VCHG	;J AT BOTTOM.
2956: 38	>227	SEC	
2957: E9 01	>228	SBC #1	
2959: 0A	>229	ASL	
295A: 0A	>230	ASL	
295B: 0A	>231	ASL	
295C: 0A	>232	ASL	
295D: A6 BB	>233	LDX MISPOF	
295F: 20 4E 2D	>234	JSR FMTEST	
2962: D0 DC	>235	BNE VCHG	;J FLD ON.
2964: C6 BA	>236	DEC MSBAND	
2966: A9 0E	>237	LDA #14	
2968: B5 B9	>238	STA MISLN	
296A: 4C B6 29	>239	JMP PWR99	
	>240		

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>240
>242 * POWERBALL TABLES-->
>243 *****
>244 PWPOF

296D: 08 08 08
2970: FF      >245          DFB  8,8,8,$FF  ;UDRL
                >246          ;
                >247 PWLN

2971: 08 08 07
2974: 06 05 04
2977: 03 02      >248          DFB  8,8,7,6,5,4,3,2
2979: 01 01 0E
297C: 0E 0D 0D
297F: 0C 0B      >249          DFB  1,1,14,14,13,13,12,11
                >250          ;
                >251 * TIME (IN 1/2 SECS) BEFORE BALL AVAIL
                >252 *****
                >253 PTIME

2981: 02 08 0C
2984: 10 14      >254          DFB  2,8,12,16,20
                >255          ;
                >256 PWR99
                62          ;
                63 *****
                64 * BANK SWITCH FOR REST OF TOPVI*
                65 *****
2986: 4C 00 20 66          JMP  TOPSW

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68 *****
69 * BANK1 SUBROUTINES *
70 *****
71 PUT MR.DO.SUBS1
>1 */ MR.DO.SUBS1 LASTED: 8/3/83.
>2 *****
>3 * SUBROUTINES *
>4 * FOR 1ST BANK OF MR.DO! *
>5 *****
>6 IGAME
>7 LDA #0
>8 STA FRAMEL
>9 STA FRAMEH
>10 STA ROUND ;RND NUM=0.
>11 STA SCORLO
>12 STA SCORHI ;INIT SCORE.
>13 STA ALPHA ;CLR OUT ALPHA MONSTER REV VIDEO.
>14 ;INIT IDX TO SPDTBL->
>15 LDA GAME
>16 ASL ;X 2.
>17 TAX
>18 STX DIGSPD
>19 INX
>20 STX DIGSPD+1
>21 ;
>22 LDA #SONG1
>23 JSR SONG ;HI PRIORITY SONG.
>24 ;
>25 LDA #4 ;4 MR DO'S.
>26 STA DOINV ;INIT MRDO INVENTORY.
>27 * INIT RAM FOR NEW ROUND -->
>28 IROUND
>29 ;
>30 LDA #6 ;GET NUM BADGUYS THIS RND.
>31 STA DIGINV
>32 ;
>33 LDY DIGSPD
>34 LDA IQTBL,Y
>35 STA DIGIQ
>36 LDY DIGSPD+1
>37 LDA IQTBL,Y
>38 STA DIGIQ+1 ;SET NUM CHAR CELLS TO GO B4 CHANG
E DIR.
>39 LDA ROUND
>40 AND #7
>41 TAX ;ONLY IDX UP TO 7 FOR REST->
>42 ;
>43 LDA CCTLAD,X ;CHERRY CONTROL ADDR LO.
>44 STA TEMP1
>45 LDA #>CCTL1 ;CHERRY CONTROL ADDR HI.
>46 STA TEMP2
>47 ;SET UP HI ADDRS-->
>48 LDA #>FR1L1 ;FIELD REG DATA ADDR HI.
>49 STA TEMP4
>50 STA TEMP6
>51 STA TEMP8
>52 STA TEMP10
>53 ;SET UP LO ADDRS==>
>54 LDA F1LADR,X ;FR1 LEFT LO ADDR.
>55 STA TEMP3
>56 LDA F2LADR,X ;FR2 LEFT LO ADDR.
>57 STA TEMP5
>58 LDA F2RADR,X ;FR2 RIGHT ADDR LO.
>59 STA TEMP7
>60 STA TEMP9
2989: A9 00 >7
298B: 85 84 >8
298D: 85 85 >9
298F: 85 81 >10
2991: 85 82 >11
2993: 85 83 >12
2995: 85 8B >13
2997: A5 80 >15
2999: 0A >16
299A: AA >17
299B: 86 C8 >18
299D: E8 >19
299E: 86 C9 >20
29A0: A9 00 >22
29A2: 20 2C 2D >23
29A5: A9 04 >25
29A7: 85 DB >26
29A9: A9 06 >30
29AB: 85 8A >31
29AD: A4 C8 >33
29AF: B9 6D 2F >34
29B2: 85 CC >35
29B4: A4 C9 >36
29B6: B9 6D 2F >37
29B9: 85 CD >38
29BB: A5 81 >39
29BD: 29 07 >40
29BF: AA >41
29C0: BD 27 2F >43
29C3: 85 EF >44
29C5: A9 2F >45
29C7: 85 F0 >46
29C9: A9 2E >48
29CB: 85 F2 >49
29CD: 85 F4 >50
29CF: 85 F6 >51
29D1: 85 F8 >52
29D3: BD A0 2E >54
29D6: 85 F1 >55
29D8: BD AB 2E >56
29DB: 85 F3 >57
29DD: BD B0 2E >58
29E0: 85 F5 >59

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29E2:	B0 B8 2E	>60	LDA	F1RADR,X	;FR1 RIGHT ADDR LO.
29E5:	85 F7	>61	STA	TEMP9	;FR1 RIGHT.
29E7:	A0 07	>62	LDY	#7	;8 BANDS
		>63	IRND		
29E9:	B1 EF	>64	LDA	(TEMP1),Y	
29EB:	99 90 00	>65	STA	CHERRY C,Y	;CHERRY RAM.
29EE:	B1 F1	>66	LDA	(TEMP3),Y	
29F0:	99 98 00	>67	STA	FR1L,Y	;FR1 LEFT RAM MAP.
29F3:	B1 F3	>68	LDA	(TEMP5),Y	
29F5:	99 A0 00	>69	STA	FR2L,Y	;FR2 LEFT RAM MAP.
29F8:	B1 F5	>70	LDA	(TEMP7),Y	
29FA:	99 A8 00	>71	STA	FR2R,Y	;FR2 RIGHT RAM MAP.
29FD:	B1 F7	>72	LDA	(TEMP9),Y	
29FF:	99 B0 00	>73	STA	FR1R,Y	;FR1 RIGHT RAM MAP.
2A02:	88	>74	DEY		
2A03:	10 E4	>75	BPL	IRND	;LOOP TIL 8 BANDS OF RAM DONE.
		>76			
		>77			
		>78			
		>79			
2A05:	A9 02	>80	LDA	#2	;INIT RANDOM MASK.
2A07:	BC C0 2E	>81	LDY	AP1POF,X	
2A0A:	25 D9	>82	AND	RANDOM	
2A0C:	F0 03	>83	BEQ	APPLE1	
2A0E:	BC C8 2E	>84	LDY	AP1POS,X	
		>85	APPLE1		
2A11:	84 D4	>86	STY	APPOF	
2A13:	0A	>87	ASL		
2A14:	BC D0 2E	>88	LDY	AP2POF,X	
2A17:	25 D9	>89	AND	RANDOM	
2A19:	F0 03	>90	BEQ	APPLE2	
2A1B:	BC D8 2E	>91	LDY	AP2POS,X	
		>92	APPLE2		
2A1E:	84 D5	>93	STY	APPOF+1	
2A20:	0A	>94	ASL		
2A21:	BC E0 2E	>95	LDY	AP3POF,X	
2A24:	25 D9	>96	AND	RANDOM	
2A26:	F0 03	>97	BEQ	APPLE3	
2A28:	BC E8 2E	>98	LDY	AP3POS,X	
		>99	APPLE3		
2A2B:	84 D6	>100	STY	APPOF+2	
2A2D:	0A	>101	ASL		
2A2E:	BC F0 2E	>102	LDY	AP4POF,X	
2A31:	25 D9	>103	AND	RANDOM	
2A33:	F0 03	>104	BEQ	APPLE4	
2A35:	BC F8 2E	>105	LDY	AP4POS,X	
		>106	APPLE4		
2A38:	84 D7	>107	STY	APPOF+3	
		>108			
2A3A:	A9 70	>109	LDA	#\$70	;TOP AP.
2A3C:	85 D0	>110	STA	APBAND	
2A3E:	A9 50	>111	LDA	#\$30	
2A40:	85 D1	>112	STA	APBAND+1	
2A42:	A9 30	>113	LDA	#\$30	
2A44:	85 D2	>114	STA	APBAND+2	
2A46:	A9 10	>115	LDA	#\$10	;BOT AP.
2A48:	85 D3	>116	STA	APBAND+3	
		>117			
2A4A:	A9 80	>118	LDA	#\$80	
2A4C:	85 D0	>119	STA	APFALL	;NO APPLES FALLING.
2A4E:	85 BA	>120	STA	MSBAND	;PWR BALL IS NOT AVAIL YET.
2A50:	A9 02	>121	LDA	#2	;SHORT DELAY
2A52:	85 BC	>122	STA	MISDIR	;SET TIME B4 AVAIL COUNT.
		>123			
		>124			
2A54:	A9 38	>125			
		>126			
		>127			
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2A56:	85 C0	>126	STA	DOPOF	
2A58:	A9 00	>127	LDA	#0	
2A5A:	85 BD	>128	STA	DOBAND	
		>129			;
2A5C:	85 C4	>130	STA	DIGDAT	
2A5E:	85 C5	>131	STA	DIGDAT+1	
		>132			;
2A60:	85 D8	>133	STA	PWRTIM	;BALL AVAIL IDX.
2A62:	85 BE	>134	STA	ANIM8	;ACTIVATE CH SELECT.
2A64:	A9 80	>135	LDA	#80	
2A66:	85 BE	>136	STA	DIGBAND	;BOTH DIG8
2A68:	85 BF	>137	STA	DIGBAND+1	;OFF.
		>138			;
2A6A:	A9 10	>139	LDA	#PLAY	
2A6C:	85 DA	>140	STA	MODE	;SET PLAY MODE.
		>141			;UP DIG SPD IDXS->
2A6E:	A2 01	>142	LDX	#1	
		>143			DSPD
2A70:	B4 C8	>144	LDY	DIGSPD,X	
2A72:	C8	>145	INY		
2A73:	C0 14	>146	CPY	#20	
2A75:	D0 02	>147	BNE	DSPD2	
2A77:	A0 08	>148	LDY	#8	;WRAP TO SPD 8.
		>149			DSPD2
2A79:	94 C8	>150	STY	DIGSPD,X	
2A7B:	CA	>151	DEX		
2A7C:	10 F2	>152	BPL	DSPD	
		>153			;
2A7E:	60	>154	RTS		

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>156 *****
>157 * CHERRY VS. DO/DIGGER HITDET *
>158 *PARAMS PASSED: *
>159 * B7-B4 ACC = BAND NUM OF OBJ *
>160 * B3-B0 = LN OFFSET OF OBJ *
>161 * Y = POF IDX OF OBJ *
>162 *TEMP RAM USED: *
>163 * TEMP1= OBJ POF IDX/8. *
>164 * TEMP2= NUM COPIES OF CHERRY *
>165 * TEMP3= CHERRY SPACING/8. *
>166 * TEMP4= CPOF TBL IDX *
>167 * TEMP5= CHERRY CONTROL VALUE. *
>168 * TEMP6= INDIR ADR LO CCTL TBL *
>169 * TEMP7= HI *
>170 * TEMP8= ORIG CHERRY POS. *
>171 * TEMP9= B4-B7= OBJ BAND NUM. *
>172 *TEMP10= POF TABL IDX OF OBJ. *
>173 *****
>174 CHIT
>175 * TEST IF MD TOTALLY W/I A BAND->
2A7F: 85 F7 >176 STA TEMP9 ;SV BAND.
2A81: 84 F8 >177 STY TEMP10 ;SV POF IDX.
2A83: 29 0F >178 AND #$0F
2A85: F0 03 >179 BEQ CH1
2A87: 4C 15 2B >180 JMP NOCH
>181 ;
>182 *TEST IF MD TOTALLY ON A COLUMN->
>183 *****
>184 CH1
2ABA: A5 F8 >185 LDA TEMP10 ;GET POF.
2ABC: 29 07 >186 AND #7
2ABE: F0 03 >187 BEQ CH2
2A90: 4C 15 2B >188 JMP NOCH ;JP MD NOT ON COLUMN(NO HIT DET).
>189 CH2.
2A93: A5 F8 >190 LDA TEMP10 ;GET POF.
2A95: 4A >191 LSR
2A96: 4A >192 LSR
2A97: 4A >193 LSR ;DOPOF/8.
2A98: 85 EF >194 STA TEMP1 ;SV IT.
>195 ;
2A9A: A5 F7 >196 LDA TEMP9 ;GET BAND.
2A9C: 4A >197 LSR
2A9D: 4A >198 LSR
2A9E: 4A >199 LSR
2A9F: 4A >200 LSR
2AA0: 29 07 >201 AND #7
2AA2: AA >202 TAX ;GIVE X BAND NUM.
2AA3: B5 90 >203 LDA CHERRYC,X ;GET CHERRY CONTROLS.
2AA5: 30 03 >204 BMI CHERE ;JP IF THERE IS A CHERRY IN THIS
AND.
2AA7: 4C 15 2B >205 JMP NOCH
>206 ;
>207 * TEST IF MD HIT A CHERRY-->
>208 *****
>209 CHERE
2AAA: 29 07 >210 AND #$07 ;KEEP ONLY REP/SPACING.
2AAC: 85 F3 >211 STA TEMP5 ;SV CHERRY CONTROL.
2AAE: 0A >212 ASL
2AAF: AB >213 TAY ;CONTROL*2.
2AB0: B9 00 2F >214 LDA REPSA,Y
2AB3: 85 F0 >215 STA TEMP2 ;SV COPIES.
2AB5: B9 01 2F >216 LDA REPSA+1,Y
2AB8: 85 F1 >217 STA TEMP3 ;SV SPACING/8.
2ABA: B5 90 >218 LDA CHERRYC,X
2ABD: 85 F0 >219 STA TEMP4
2ABF: 85 F0 >220 STA TEMP5
2AC0: 85 F0 >221 STA TEMP6
2AC3: 85 F0 >222 STA TEMP7
2AC6: 85 F0 >223 STA TEMP8
2AC9: 85 F0 >224 STA TEMP9
2ACA: 85 F0 >225 STA TEMP10
2ACC: 85 F0 >226 STA TEMP11
2ACE: 85 F0 >227 STA TEMP12
2ACF: 85 F0 >228 STA TEMP13
2AD0: 85 F0 >229 STA TEMP14
2AD3: 85 F0 >230 STA TEMP15
2AD6: 85 F0 >231 STA TEMP16
2AD9: 85 F0 >232 STA TEMP17
2ADA: 85 F0 >233 STA TEMP18
2ADD: 85 F0 >234 STA TEMP19
2ADE: 85 F0 >235 STA TEMP20
2ADF: 85 F0 >236 STA TEMP21
2AE0: 85 F0 >237 STA TEMP22
2AE3: 85 F0 >238 STA TEMP23
2AE6: 85 F0 >239 STA TEMP24
2AE9: 85 F0 >240 STA TEMP25
2AEA: 85 F0 >241 STA TEMP26
2AEC: 85 F0 >242 STA TEMP27
2AEE: 85 F0 >243 STA TEMP28
2AEF: 85 F0 >244 STA TEMP29
2AF0: 85 F0 >245 STA TEMP30
2AF3: 85 F0 >246 STA TEMP31
2AF6: 85 F0 >247 STA TEMP32
2AF9: 85 F0 >248 STA TEMP33
2AFB: 85 F0 >249 STA TEMP34
2AFD: 85 F0 >250 STA TEMP35
2AFF: 85 F0 >251 STA TEMP36
2B00: 85 F0 >252 STA TEMP37
2B03: 85 F0 >253 STA TEMP38
2B06: 85 F0 >254 STA TEMP39
2B09: 85 F0 >255 STA TEMP40
2B0C: 85 F0 >256 STA TEMP41
2B0F: 85 F0 >257 STA TEMP42
2B12: 85 F0 >258 STA TEMP43
2B15: 85 F0 >259 STA TEMP44
2B18: 85 F0 >260 STA TEMP45
2B1B: 85 F0 >261 STA TEMP46
2B1E: 85 F0 >262 STA TEMP47
2B21: 85 F0 >263 STA TEMP48
2B24: 85 F0 >264 STA TEMP49
2B27: 85 F0 >265 STA TEMP50
2B2A: 85 F0 >266 STA TEMP51
2B2D: 85 F0 >267 STA TEMP52
2B30: 85 F0 >268 STA TEMP53
2B33: 85 F0 >269 STA TEMP54
2B36: 85 F0 >270 STA TEMP55
2B39: 85 F0 >271 STA TEMP56
2B3C: 85 F0 >272 STA TEMP57
2B3F: 85 F0 >273 STA TEMP58
2B42: 85 F0 >274 STA TEMP59
2B45: 85 F0 >275 STA TEMP60
2B48: 85 F0 >276 STA TEMP61
2B4B: 85 F0 >277 STA TEMP62
2B4E: 85 F0 >278 STA TEMP63
2B51: 85 F0 >279 STA TEMP64
2B54: 85 F0 >280 STA TEMP65
2B57: 85 F0 >281 STA TEMP66
2B5A: 85 F0 >282 STA TEMP67
2B5D: 85 F0 >283 STA TEMP68
2B60: 85 F0 >284 STA TEMP69
2B63: 85 F0 >285 STA TEMP70
2B66: 85 F0 >286 STA TEMP71
2B69: 85 F0 >287 STA TEMP72
2B6C: 85 F0 >288 STA TEMP73
2B6F: 85 F0 >289 STA TEMP74
2B72: 85 F0 >290 STA TEMP75
2B75: 85 F0 >291 STA TEMP76
2B78: 85 F0 >292 STA TEMP77
2B7B: 85 F0 >293 STA TEMP78
2B7E: 85 F0 >294 STA TEMP79
2B81: 85 F0 >295 STA TEMP80
2B84: 85 F0 >296 STA TEMP81
2B87: 85 F0 >297 STA TEMP82
2B8A: 85 F0 >298 STA TEMP83
2B8D: 85 F0 >299 STA TEMP84
2B90: 85 F0 >300 STA TEMP85
2B93: 85 F0 >301 STA TEMP86
2B96: 85 F0 >302 STA TEMP87
2B99: 85 F0 >303 STA TEMP88
2B9C: 85 F0 >304 STA TEMP89
2B9F: 85 F0 >305 STA TEMP90
2BA0: 85 F0 >306 STA TEMP91
2BA3: 85 F0 >307 STA TEMP92
2BA6: 85 F0 >308 STA TEMP93
2BA9: 85 F0 >309 STA TEMP94
2BAC: 85 F0 >310 STA TEMP95
2BAF: 85 F0 >311 STA TEMP96
2BB0: 85 F0 >312 STA TEMP97
2BB3: 85 F0 >313 STA TEMP98
2BB6: 85 F0 >314 STA TEMP99
2BB9: 85 F0 >315 STA TEMP100
2BBC: 85 F0 >316 STA TEMP101
2BBF: 85 F0 >317 STA TEMP102
2BC0: 85 F0 >318 STA TEMP103
2BC3: 85 F0 >319 STA TEMP104
2BC6: 85 F0 >320 STA TEMP105
2BC9: 85 F0 >321 STA TEMP106
2BCB: 85 F0 >322 STA TEMP107
2BCE: 85 F0 >323 STA TEMP108
2BCF: 85 F0 >324 STA TEMP109
2BD0: 85 F0 >325 STA TEMP110
2BD3: 85 F0 >326 STA TEMP111
2BD6: 85 F0 >327 STA TEMP112
2BD9: 85 F0 >328 STA TEMP113
2BDB: 85 F0 >329 STA TEMP114
2BDE: 85 F0 >330 STA TEMP115
2BDF: 85 F0 >331 STA TEMP116
2BE0: 85 F0 >332 STA TEMP117
2BE3: 85 F0 >333 STA TEMP118
2BE6: 85 F0 >334 STA TEMP119
2BE9: 85 F0 >335 STA TEMP120
2BEA: 85 F0 >336 STA TEMP121
2BEC: 85 F0 >337 STA TEMP122
2BEE: 85 F0 >338 STA TEMP123
2BEF: 85 F0 >339 STA TEMP124
2BF0: 85 F0 >340 STA TEMP125
2BF3: 85 F0 >341 STA TEMP126
2BF6: 85 F0 >342 STA TEMP127
2BF9: 85 F0 >343 STA TEMP128
2BFB: 85 F0 >344 STA TEMP129
2BFD: 85 F0 >345 STA TEMP130
2BFF: 85 F0 >346 STA TEMP131
2C00: 85 F0 >347 STA TEMP132
2C03: 85 F0 >348 STA TEMP133
2C06: 85 F0 >349 STA TEMP134
2C09: 85 F0 >350 STA TEMP135
2C0C: 85 F0 >351 STA TEMP136
2C0F: 85 F0 >352 STA TEMP137
2C12: 85 F0 >353 STA TEMP138
2C15: 85 F0 >354 STA TEMP139
2C18: 85 F0 >355 STA TEMP140
2C1B: 85 F0 >356 STA TEMP141
2C1E: 85 F0 >357 STA TEMP142
2C21: 85 F0 >358 STA TEMP143
2C24: 85 F0 >359 STA TEMP144
2C27: 85 F0 >360 STA TEMP145
2C2A: 85 F0 >361 STA TEMP146
2C2D: 85 F0 >362 STA TEMP147
2C30: 85 F0 >363 STA TEMP148
2C33: 85 F0 >364 STA TEMP149
2C36: 85 F0 >365 STA TEMP150
2C39: 85 F0 >366 STA TEMP151
2C3C: 85 F0 >367 STA TEMP152
2C3F: 85 F0 >368 STA TEMP153
2C42: 85 F0 >369 STA TEMP154
2C45: 85 F0 >370 STA TEMP155
2C48: 85 F0 >371 STA TEMP156
2C4B: 85 F0 >372 STA TEMP157
2C4E: 85 F0 >373 STA TEMP158
2C51: 85 F0 >374 STA TEMP159
2C54: 85 F0 >375 STA TEMP160
2C57: 85 F0 >376 STA TEMP161
2C5A: 85 F0 >377 STA TEMP162
2C5D: 85 F0 >378 STA TEMP163
2C60: 85 F0 >379 STA TEMP164
2C63: 85 F0 >380 STA TEMP165
2C66: 85 F0 >381 STA TEMP166
2C69: 85 F0 >382 STA TEMP167
2C6C: 85 F0 >383 STA TEMP168
2C6F: 85 F0 >384 STA TEMP169
2C72: 85 F0 >385 STA TEMP170
2C75: 85 F0 >386 STA TEMP171
2C78: 85 F0 >387 STA TEMP172
2C7B: 85 F0 >388 STA TEMP173
2C7E: 85 F0 >389 STA TEMP174
2C81: 85 F0 >390 STA TEMP175
2C84: 85 F0 >391 STA TEMP176
2C87: 85 F0 >392 STA TEMP177
2C8A: 85 F0 >393 STA TEMP178
2C8D: 85 F0 >394 STA TEMP179
2C90: 85 F0 >395 STA TEMP180
2C93: 85 F0 >396 STA TEMP181
2C96: 85 F0 >397 STA TEMP182
2C99: 85 F0 >398 STA TEMP183
2C9C: 85 F0 >399 STA TEMP184
2C9F: 85 F0 >400 STA TEMP185
2CA0: 85 F0 >401 STA TEMP186
2CA3: 85 F0 >402 STA TEMP187
2CA6: 85 F0 >403 STA TEMP188
2CA9: 85 F0 >404 STA TEMP189
2CAC: 85 F0 >405 STA TEMP190
2CAF: 85 F0 >406 STA TEMP191
2CB0: 85 F0 >407 STA TEMP192
2CB3: 85 F0 >408 STA TEMP193
2CB6: 85 F0 >409 STA TEMP194
2CB9: 85 F0 >410 STA TEMP195
2CBC: 85 F0 >411 STA TEMP196
2CBF: 85 F0 >412 STA TEMP197
2CC0: 85 F0 >413 STA TEMP198
2CC3: 85 F0 >414 STA TEMP199
2CC6: 85 F0 >415 STA TEMP200
2CC9: 85 F0 >416 STA TEMP201
2CCB: 85 F0 >417 STA TEMP202
2CCE: 85 F0 >418 STA TEMP203
2CCF: 85 F0 >419 STA TEMP204
2CD0: 85 F0 >420 STA TEMP205
2CD3: 85 F0 >421 STA TEMP206
2CD6: 85 F0 >422 STA TEMP207
2CD9: 85 F0 >423 STA TEMP208
2CDB: 85 F0 >424 STA TEMP209
2CDE: 85 F0 >425 STA TEMP210
2CDF: 85 F0 >426 STA TEMP211
2CE0: 85 F0 >427 STA TEMP212
2CE3: 85 F0 >428 STA TEMP213
2CE6: 85 F0 >429 STA TEMP214
2CE9: 85 F0 >430 STA TEMP215
2CEA: 85 F0 >431 STA TEMP216
2CEC: 85 F0 >432 STA TEMP217
2CEE: 85 F0 >433 STA TEMP218
2CEF: 85 F0 >434 STA TEMP219
2CF0: 85 F0 >435 STA TEMP220
2CF3: 85 F0 >436 STA TEMP221
2CF6: 85 F0 >437 STA TEMP222
2CF9: 85 F0 >438 STA TEMP223
2CFB: 85 F0 >439 STA TEMP224
2CFD: 85 F0 >440 STA TEMP225
2CFF: 85 F0 >441 STA TEMP226
2D00: 85 F0 >442 STA TEMP227
2D03: 85 F0 >443 STA TEMP228
2D06: 85 F0 >444 STA TEMP229
2D09: 85 F0 >445 STA TEMP230
2D0C: 85 F0 >446 STA TEMP231
2D0F: 85 F0 >447 STA TEMP232
2D12: 85 F0 >448 STA TEMP233
2D15: 85 F0 >449 STA TEMP234
2D18: 85 F0 >450 STA TEMP235
2D1B: 85 F0 >451 STA TEMP236
2D1E: 85 F0 >452 STA TEMP237
2D21: 85 F0 >453 STA TEMP238
2D24: 85 F0 >454 STA TEMP239
2D27: 85 F0 >455 STA TEMP240
2D2A: 85 F0 >456 STA TEMP241
2D2D: 85 F0 >457 STA TEMP242
2D30: 85 F0 >458 STA TEMP243
2D33: 85 F0 >459 STA TEMP244
2D36: 85 F0 >460 STA TEMP245
2D39: 85 F0 >461 STA TEMP246
2D3C: 85 F0 >462 STA TEMP247
2D3F: 85 F0 >463 STA TEMP248
2D42: 85 F0 >464 STA TEMP249
2D45: 85 F0 >465 STA TEMP250
2D48: 85 F0 >466 STA TEMP251
2D4B: 85 F0 >467 STA TEMP252
2D4E: 85 F0 >468 STA TEMP253
2D51: 85 F0 >469 STA TEMP254
2D54: 85 F0 >470 STA TEMP255
2D57: 85 F0 >471 STA TEMP256
2D5A: 85 F0 >472 STA TEMP257
2D5D: 85 F0 >473 STA TEMP258
2D60: 85 F0 >474 STA TEMP259
2D63: 85 F0 >475 STA TEMP260
2D66: 85 F0 >476 STA TEMP261
2D69: 85 F0 >477 STA TEMP262
2D6C: 85 F0 >478 STA TEMP263
2D6F: 85 F0 >479 STA TEMP264
2D72: 85 F0 >480 STA TEMP265
2D75: 85 F0 >481 STA TEMP266
2D78: 85 F0 >482 STA TEMP267
2D7B: 85 F0 >483 STA TEMP268
2D7E: 85 F0 >484 STA TEMP269
2D81: 85 F0 >485 STA TEMP270
2D84: 85 F0 >486 STA TEMP271
2D87: 85 F0 >487 STA TEMP272
2D8A: 85 F0 >488 STA TEMP273
2D8D: 85 F0 >489 STA TEMP274
2D90: 85 F0 >490 STA TEMP275
2D93: 85 F0 >491 STA TEMP276
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2D99: 85 F0 >493 STA TEMP278
2D9C: 85 F0 >494 STA TEMP279
2D9F: 85 F0 >495 STA TEMP280
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2DA3: 85 F0 >497 STA TEMP282
2DA6: 85 F0 >498 STA TEMP283
2DA9: 85 F0 >499 STA TEMP284
2DAC: 85 F0 >500 STA TEMP285
2DAF: 85 F0 >501 STA TEMP286
2DB0: 85 F0 >502 STA TEMP287
2DB3: 85 F0 >503 STA TEMP288
2DB6: 85 F0 >504 STA TEMP289
2DB9: 85 F0 >505 STA TEMP290
2DBC: 85 F0 >506 STA TEMP291
2DBF: 85 F0 >507 STA TEMP292
2DC0: 85 F0 >508 STA TEMP293
2DC3: 85 F0 >509 STA TEMP294
2DC6: 85 F0 >510 STA TEMP295
2DC9: 85 F0 >511 STA TEMP296
2DCB: 85 F0 >512 STA TEMP297
2CCE: 85 F0 >513 STA TEMP298
2CCF: 85 F0 >514 STA TEMP299
2CD0: 85 F0 >515 STA TEMP300
2CD3: 85 F0 >516 STA TEMP301
2CD6: 85 F0 >517 STA TEMP302
2CD9: 85 F0 >518 STA TEMP303
2CDB: 85 F0 >519 STA TEMP304
2CDE: 85 F0 >520 STA TEMP305
2CDF: 85 F0 >521 STA TEMP306
2CE0: 85 F0 >522 STA TEMP307
2CE3: 85 F0 >523 STA TEMP308
2CE6: 85 F0 >524 STA TEMP309
2CE9: 85 F0 >525 STA TEMP310
2CEA: 85 F0 >526 STA TEMP311
2CEC: 85 F0 >527 STA TEMP312
2CEE: 85 F0 >528 STA TEMP313
2CEF: 85 F0 >529 STA TEMP314
2CF0: 85 F0 >530 STA TEMP315
2CF3: 85 F0 >531 STA TEMP316
2CF6: 85 F0 >532 STA TEMP317
2CF9: 85 F0 >533 STA TEMP318
2CFB: 85 F0 >534 STA TEMP319
2CFD: 85 F0 >535 STA TEMP320
2CFF: 85 F0 >536 STA TEMP321
2D00: 85 F0 >537 STA TEMP322
2D03: 85 F0 >538 STA TEMP323
2D06: 85 F0 >539 STA TEMP324
2D09: 85 F0 >540 STA TEMP325
2D0C: 85 F0 >541 STA TEMP326
2D0F: 85 F0 >542 STA TEMP327
2D12: 85 F0 >543 STA TEMP328
2D15: 85 F0 >544 STA TEMP329
2D18: 85 F0 >545 STA TEMP330
2D1B: 85 F0 >546 STA TEMP331
2D1E: 85 F0 >547 STA TEMP332
2D21: 85 F0 >548 STA TEMP333
2D24: 85 F0 >549 STA TEMP334
2D27: 85 F0 >550 STA TEMP335
2D2A: 85 F0 >551 STA TEMP336
2D2D: 85 F0 >552 STA TEMP337
2D30: 85 F0 >553 STA TEMP338
2D33: 85 F0 >554 STA TEMP339
2D36: 85 F0 >555 STA TEMP340
2D39: 85 F0 >556 STA TEMP341
2D3C: 85 F0 >557 STA TEMP342
2D3F: 85 F0 >558 STA TEMP343
2D42: 85 F0 >559 STA TEMP344
2D45: 85 F0 >560 STA TEMP345
2D48: 85 F0 >561 STA TEMP346
2D4B: 85 F0 >562 STA TEMP347
2D4E: 85 F0 >563 STA TEMP348
2D51: 85 F0 >564 STA TEMP349
2D54: 85 F0 >565 STA TEMP350
2D57: 85 F0 >566 STA TEMP351
2D5A: 85 F0 >567 STA TEMP352
2D5D: 85 F0 >568 STA TEMP353
2D60: 85 F0 >569 STA TEMP354
2D63: 85 F0 >570 STA TEMP355
2D66: 85 F0 >571 STA TEMP356
2D69: 85 F0 >572 STA TEMP357
2D6C: 85 F0 >573 STA TEMP358
2D6F: 85 F0 >574 STA TEMP359
2D72: 85 F0 >575 STA TEMP360
2D75: 85 F0 >576 STA TEMP361
2D78: 85 F0 >577 STA TEMP362
2D7B: 85 F0 >578 STA TEMP363
2D7E: 85 F0 >579 STA TEMP364
2D81: 85 F0 >580 STA TEMP365
2D84: 85 F0 >581 STA TEMP366
2D87: 85 F0 >582 STA TEMP367
2D8A: 85 F0 >583 STA TEMP368
2D8D: 85 F0 >584 STA TEMP369
2D90: 85 F0 >585 STA TEMP370
2D93: 85 F0 >586 STA TEMP371
2D96: 85 F0 >587 STA TEMP372
2D99: 85 F0 >588 STA TEMP373
2D9C: 85 F0 >589 STA TEMP374
2D9F: 85 F0 >590 STA TEMP375
2DA0: 85 F0 >591 STA TEMP376
2DA3: 85 F0 >592 STA TEMP377
2DA6: 85 F0 >593 STA TEMP378
2DA9: 85 F0 >594 STA TEMP379
2DAC: 85 F0 >595 STA TEMP380
2DAF: 85 F0 >596 STA TEMP381
2DB0: 85 F0 >597 STA TEMP382
2DB3: 85 F0 >598 STA TEMP383
2DB6: 85 F0 >599 STA TEMP384
2DB9: 85 F0 >600 STA TEMP385
2DBC: 85 F0 >601 STA TEMP386
2DBF: 85 F0 >602 STA TEMP387
2DC0: 85 F0 >603 STA TEMP388
2DC3: 85 F0 >604 STA TEMP389
2DC6: 85 F0 >605 STA TEMP390
2DC9: 85 F0 >606 STA TEMP391
2DCB: 85 F0 >607 STA TEMP392
2CCE: 85 F0 >608 STA TEMP393
2CCF: 85 F0 >609 STA TEMP394
2CD0: 85 F0 >610 STA TEMP395
2CD3: 85 F0 >611 STA TEMP396
2CD6: 85 F0 >612 STA TEMP397
2CD9: 85 F0 >613 STA TEMP398
2CDB: 85 F0 >614 STA TEMP399
2CDE: 85 F0 >615 STA TEMP400
2CDF: 85 F0 >616 STA TEMP401
2CE0: 85 F0 >617 STA TEMP402
2CE3: 85 F0 >618 STA TEMP403
2CE6: 85 F0 >619 STA TEMP404
2CE9: 85 F0 >620 STA TEMP405
2CEA: 85 F0 >621 STA TEMP406
2CEC: 85 F0 >622 STA TEMP407
2CEE: 85 F0 >623 STA TEMP408
2CEF: 85 F0 >624 STA TEMP409
2CF0: 85 F0 >625 STA TEMP410
2CF3: 85 F0 >626 STA TEMP411
2CF6: 85 F0 >627 STA TEMP412
2CF9: 85 F0 >628 STA TEMP413
2CFB: 85 F0 >629 STA TEMP414
2CFD: 85 F0 >630 STA TEMP415
2CFF: 85 F0 >631 STA TEMP416
2D00: 85 F0 >632 STA TEMP417
2D03: 85 F0 >633 STA TEMP418
2D06: 85 F0 >634 STA TEMP419
2D09: 85 F0 >635 STA TEMP420
2D0C: 85 F0 >636 STA TEMP421
2D0F: 85 F0 >637 STA TEMP422
2D12: 85 F0 >638 STA TEMP423
2D15: 85 F0 >639 STA TEMP424
2D18: 85 F0 >640 STA TEMP425
2D1B: 85 F0 >641 STA TEMP426
2D1E: 85 F0 >642 STA TEMP427
2D21: 85 F0 >643 STA TEMP428
2D24: 85 F0 >644 STA TEMP429
2D27: 85 F0 >645 STA TEMP430
2D2A: 85 F0 >646 STA TEMP431
2D2D: 85 F0 >647 STA TEMP432
2D30: 85 F0 >648 STA TEMP433
2D33: 85 F0 >649 STA TEMP434
2D36: 85 F0 >650 STA TEMP435
2D39: 85 F0 >651 STA TEMP436
2D3C: 85 F0 >652 STA TEMP437
2D3F: 85 F0 >653 STA TEMP438
2D42: 85 F0 >654 STA TEMP439
2D45: 85 F0 >655 STA TEMP440
2D48: 85 F0 >656 STA TEMP441
2D4B: 85 F0 >657 STA TEMP442
2D4E: 85 F0 >658 STA TEMP443
2D51: 85 F0 >659 STA TEMP444
2D54: 85 F0 >660 STA TEMP445
2D57: 85 F0 >661 STA TEMP446
2D5A: 85 F0 >662 STA TEMP447
2D5D: 85 F0 >663 STA TEMP448
2D60: 85 F0 >664 STA TEMP449
2D63: 85 F0 >665 STA TEMP450
2D66: 85 F0 >666 STA TEMP451
2D69: 85 F0 >667 STA TEMP452
2D6C: 85 F0 >668 STA TEMP453
2D6F: 85 F0 >669 STA TEMP454
2D72: 85 F0 >670 STA TEMP455
2D75: 85 F0 >671 STA TEMP456
2D78: 85 F0 >672 STA TEMP457
2D7B: 85 F0 >673 STA TEMP458
2D7E: 85 F0 >674 STA TEMP459
2D81: 85 F0 >675 STA TEMP460
2D84: 85 F0 >676 STA TEMP461
2D87: 85 F0 >677 STA TEMP462
2D8A: 85 F0 >678 STA TEMP463
2D8D: 85 F0 >679 STA TEMP464
2D90: 85 F0 >680 STA TEMP465
2D93: 85 F0 >681 STA TEMP466
2D96: 85 F0 >682 STA TEMP467
2D99: 85 F0 >683 STA TEMP468
2D9C: 85 F0 >684 STA TEMP469
2D9F: 85 F0 >685 STA TEMP470
2DA0: 85 F0 >686 STA TEMP471
2DA3: 85 F0 >687 STA TEMP472
2DA6: 85 F0 >688 STA TEMP473
2DA9: 85 F0 >689 STA TEMP474
2DAC: 85 F0 >690 STA TEMP475
2DAF: 85 F0 >691 STA TEMP476
2DB0: 85 F0 >692 STA TEMP477
2DB3: 85 F0 >693 STA TEMP478
2DB6: 85 F0 >694 STA TEMP479
2DB9: 85 F0 >695 STA TEMP480
2DBC: 85 F0 >696 STA TEMP481
2DBF: 85 F0 >697 STA TEMP482
2DC0: 85 F0 >698 STA TEMP483
2DC3: 85 F0 >699 STA TEMP484
2DC6: 85 F0 >700 STA TEMP485
2DC9: 85 F0 >701 STA TEMP486
2DCB: 85 F0 >702 STA TEMP487
2CCE: 85 F0 >703 STA TEMP488
2CCF: 85 F0 >704 STA TEMP489
2CD0: 85 F0 >705 STA TEMP490
2CD3: 85 F0 >706 STA TEMP491
2CD6: 85 F0 >707 STA TEMP492
2CD9: 85 F0 >708 STA TEMP493
2CDB: 85 F0 >709 STA TEMP494
2CDE: 85 F0 >710 STA TEMP495
2CDF: 85 F0 >711 STA TEMP496
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2CE6: 85 F0 >714 STA TEMP499
2CE9: 85 F0 >715 STA TEMP500
2CEA: 85 F0 >716 STA TEMP501
2CEC: 85 F0 >717 STA TEMP502
2CEE: 85 F0 >718 STA TEMP503
2CEF: 85 F0 >719 STA TEMP504
2CF0: 85 F0 >720 STA TEMP505
2CF3: 85 F0 >721 STA TEMP506
2CF6: 85 F0 >722 STA TEMP507
2CF9: 85 F0 >723 STA TEMP508
2CFB: 85 F0 >724 STA TEMP509
2CFD: 85 F0 >725 STA TEMP510
2CFF: 85 F0 >726 STA TEMP511
2D00: 85 F0 >727 STA TEMP512
2D03: 85 F0 >728 STA TEMP513
2D06: 85 F0 >729 STA TEMP514
2D09: 85 F0 >730 STA TEMP515
2D0C: 85 F0 >731 STA TEMP516
2D0F: 85 F0 >732 STA TEMP517
2D12: 85 F0 >733 STA TEMP518
2D15: 85 F0 >734 STA TEMP519
2D18: 85 F0 >735 STA TEMP520
2D1B: 85 F0 >736 STA TEMP521
2D1E: 85 F0 >737 STA TEMP522
2D21: 85 F0 >738 STA TEMP523
2D24: 85 F0 >739 STA TEMP524
2D27: 85 F0 >740 STA TEMP525
2D2A: 85 F0 >741 STA TEMP526
2D2D: 85 F0 >742 STA TEMP527
2D30: 85 F0 >743 STA TEMP528
2D33: 85 F0 >744 STA TEMP529
2D36: 
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2ABC: 4A      >219      LSR
2ABD: 4A      >220      LSR
2ABE: 4A      >221      LSR
2ABF: 29 0F   >222      AND    #$0F
2AC1: 85 F2   >223      STA    TEMP4      ;SV CPOF TBL IDX.
2AC3: 85 F6   >224      STA    TEMP8      ;SV ANOTHER COPY.
2AC5: A2 00   >225      LDX    #0          ;INIT TRIES COUNT.
                >226      CH25
2AC7: A5 EF   >227      LDA    TEMP1      ;GET DOPOF/8.
2AC9: C5 F2   >228      CMP    TEMP4      ;DOPOF=CPOF?
2ACB: F0 0E   >229      BEQ    CH50      ;JP YES,HIT.
2ACD: C6 F0   >230      DEC    TEMP2      ;DEC COPIES.
2ACF: F0 44   >231      BEQ    NOCH      ;JP IF TRIED ALL COPIES.
                >232
                >233      * ADD SPACING TO CHERRY POS-->
                >234      *****
2AD1: 18      >235      CLC
2AD2: A5 F2   >236      LDA    TEMP4      ;ADD SPACING TO CPOF.
2AD4: 65 F1   >237      ADC    TEMP3
2AD6: 85 F2   >238      STA    TEMP4
2AD8: E8      >239      INX          ;UP TRIES COUNT.
2AD9: D0 EC   >240      BNE    CH25      ;JP ALWAYS,TRY AGAIN.
                >241      * THERE IS A HIT--->
                >242      *****
                >243      CH50
2ADB: A4 F3   >244      LDY    TEMP5      ;GET CCTL(0-6).
2ADD: B9 0E 2F >245      LDA    HITTBL,Y
2AE0: 85 F4   >246      STA    TEMP6      ;INDIR LO.
2AE2: A9 2F   >247      LDA    #>VIC
2AE4: 85 F5   >248      STA    TEMP7      ;INDIR HI.
2AE6: 8A      >249      TXA
2AE7: 0A      >250      ASL          ;TRIES*2.
2AE8: A8      >251      TAY
2AE9: B1 F4   >252      LDA    (TEMP6),Y
2AEB: 85 F3   >253      STA    TEMP5      ;NEW CTL+SIGN.
2AED: C8      >254      INY
2AEE: B1 F4   >255      LDA    (TEMP6),Y ;GET NUM TIMES TO ADD SPACING TO C
POF IDX.
2AF0: AA      >256      TAX
                >257      * ADD SPACING TO OLD CHERRY POS-->
                >258      *****
                >259      CH75
2AF1: CA      >260      DEX
2AF2: 30 09   >261      BMI    CH80      ;JP WHEN NEW POS DONE.
2AF4: 18      >262      CLC
2AF5: A5 F1   >263      LDA    TEMP3      ;SPACING/8.
2AF7: 65 F6   >264      ADC    TEMP8      ;ADD TO ORIG POS IDX.
2AF9: 85 F6   >265      STA    TEMP8
2AFB: D0 F4   >266      BNE    CH75      ;JP ALWAYS.
                >267      CH80
2AFD: A5 F6   >268      LDA    TEMP8      ;GET NEW CPOF IDX.
2AFF: 0A      >269      ASL
2B00: 0A      >270      ASL
2B01: 0A      >271      ASL
2B02: 05 F3   >272      ORA    TEMP5      ;OR CPOF IDX TO CTL.
2B04: 85 F3   >273      STA    TEMP5
2B06: A5 F7   >274      LDA    TEMP9      ;GET BAND.
2B08: 4A      >275      LSR
2B09: 4A      >276      LSR
2B0A: 4A      >277      LSR
2B0B: 4A      >278      LSR
2B0C: 29 07   >279      AND    #7
2B0E: AA      >280      TAX          ;GIVE X BAND NUM.
2B0F: A5 F3   >281      LDA    TEMP5
2B11: 95 90   >282      STA    CHERRYC,X ;NEW CHERRY CTL+POF.
2B13: 38      >283      SEC          ;FLAG A HIT.
2B14: 40      >284      STC

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2B14: 60	>284	RTS	
2B15: 18	>285	NOCH	
2B16: 60	>286	CLC	;FLAG NO HIT.
	>287	RTS	
	>288	CNOTE	
2B17: 1C	>289	DFB	#CHER1
2B18: 29	>290	DFB	#CHER2
2B19: 36	>291	DFB	#CHER3
2B1A: 43	>292	DFB	#CHER4
2B1B: 50	>293	DFB	#CHER5
2B1C: 5D	>294	DFB	#CHER6
	>295	CHRPTS	
2B1D: 05 05 05			
2B20: 05 05 55	>296	DFB	5,5,5,5,5,55

```

>298 *****
>299 * ADDPTS-ADD ACC. TO SCORE *
>300 *****
>301 ADDPTS
2B23: 86 F0 >302 STX TEMP2
2B25: A6 83 >303 LDX SCORHI
2B27: 86 EF >304 STX TEMP1
>305 ;ADD THE PTS IN->
2B29: F8 >306 SED
2B2A: 18 >307 CLC
2B2B: 65 82 >308 ADC SCORLO
2B2D: 85 82 >309 STA SCORLO
2B2F: A9 00 >310 LDA #0
2B31: 65 83 >311 ADC SCORHI
2B33: 85 83 >312 STA SCORHI
2B35: D8 >313 CLD
>314 ;DID 1K CHANGE?
2B36: C5 EF >315 CMP TEMP1
2B38: F0 45 >316 BEQ NOCHG ;J N.
>317 ;LET ONLY EVERY 2K PTS->
2B3A: 29 01 >318 AND #1
2B3C: D0 41 >319 BNE NOCHG
>320 ;
>321 ;
>322 * 1K DIGIT CHANGED-->
>323 *****
>324 ;
>325 *IS AN ALPHA MONSTER ALREADY OUT?
>326 *****
2B3E: A9 02 >327 LDA #2
2B40: 25 8E >328 AND ANIM8
2B42: D0 3B >329 BNE NOCHG ;J Y,ALF IS OUT ALREADY.
>330 ;
>331 ;
>332 *IS CH SELECT @ A REV VIDEO CHAR?
>333 *****
2B44: A5 8B >334 LDA ALPHA
2B46: 29 07 >335 AND #7
2B48: AA >336 TAX
2B49: A9 08 >337 LDA #8 ;LET E.
>338 ADD44
2B4B: CA >339 DEX
2B4C: 30 04 >340 BMI ADD55
2B4E: 0A >341 ASL ;PREPARE MASK.
2B4F: 4C 4B 2B >342 JMP ADD44
>343 ADD55
2B52: 25 8B >344 AND ALPHA
2B54: D0 29 >345 BNE NOCHG ;J LET IS REV VIDEO.
>346 * CHANGE DIGGER TO ALPHA MONSTER
>347 *****
2B56: A6 C8 >348 LDX DIGSPD
2B58: BD 6D 2F >349 LDA DTIME,X ;TIME B4 XFORM TO DIG.
2B5B: 85 CA >350 STA DIGTIM ;DON'T LET HIM DIG.
>351 ;
2B5D: A5 8B >352 LDA ALPHA
2B5F: 29 07 >353 AND #7
2B61: AA >354 TAX
2B62: BD AA 2B >355 LDA MONSTR,X
2B65: 85 C4 >356 STA DIGDAT
2B67: A9 02 >357 LDA #2
2B69: 05 8E >358 ORA ANIM8
2B6B: 85 8E >359 STA ANIM8 ;SET FLAG FOR ALF MONSTER OUT.
>360 ;IS THAT DIG ON?
2B6D: A5 BE >361 LDA DIGBAND
2B6F: 10 0E >362 BPL NOCHG

```


2B8F: 10 0E >362
2B71: A9 38 >363
2B73: 85 C1 >364
2B75: A9 40 >365
2B77: 85 BE >366
2B79: A5 8A >367
2B7B: F0 02 >368
2B7D: C6 8A >369
2B7F: A6 F0 >370
2B81: 60 >371
2B81: 60 >372
2B81: 60 >373

NOCHG

BPL NOCHG
LDA #56
STA DIGPOF
LDA #40
STA DIGBAND
LDA DIGINV
BEQ NOCHG
DEC DIGINV
LDX TEMP2
RTS

;J Y.
;PUT HIM IN CTR->

;1 LESS DIG IF ANY LEFT.

```

>375 *****
>376 *MAKE REV VIDEO IF DIG WAS ALF->
>377 *****
>378 REVVID
2B82: A5 8E >379 LDA ANIM8
2B84: 29 FD >380 AND #$FF-2
2B86: 85 8E >381 STA ANIM8 ;CLR ALF OUT.
>382 ;
2B88: A5 C4 >383 LDA DIGDAT
2B8A: C9 06 >384 CMP #6
2B8C: 90 1B >385 BCC ALFRET ;J N.
>386 ;YES, REV VIDEO HIS LETTER->
2B8E: 86 F3 >387 STX TEMP5 ;SV X.
2B90: A5 8B >388 LDA ALPHA
2B92: 29 07 >389 AND #7 ;GET CH SELECT.
2B94: AA >390 TAX
2B95: A9 0B >391 LDA #8 ;LET E.
>392 ALFT5
2B97: CA >393 DEX
2B98: 30 04 >394 BMI HAVIT
2B9A: 0A >395 ASL
2B9B: 4C 97 2B >396 JMP ALFT5
>397 HAVIT
2B9E: 05 8B >398 ORA ALPHA
2BA0: 85 8B >399 STA ALPHA ;SET REV VIDEO BIT.
>400 *****
>401 * CLR ALPHA OUT FLAG--> *
>402 *****
>403 ;
2BA2: A9 00 >404 LDA #0
2BA4: 85 C4 >405 STA DIGDAT
2BA6: A6 F3 >406 LDX TEMP5 ;RSTR X.
2BA8: 38 >407 SEC ;FLAG Y.
>408 ALFRET
2BA9: 60 >409 RTS
>410 * IDX TO ALF MONSTER IMGS(DIGIMG).
>411 *****
>412 MONSTR
2BAA: 06 0B 0A
2BAD: 0C 0E >413 DFB 6,8,10,12,14

```

```

>415 *****
>416 * PRIMITIVE OBJ MOVE RTNS--> *
>417 *****
>418 ;
>419 *MDOWN - MOVE OBJ DOWN 1 LINE.
>420 * - CHANGE BANDS IF NECESSARY.
>421 * IN: X-> DO,DIG1,DIG2 IDX
>422 * IE. 0,1,2
>423 *
>424 * OUT: C=1 = MOVE ILLEGAL BECAUSE:
>425 * ALREADY AT BOTTOM OR
>426 * OBJ NOT IN A COLUMN.
>427 * OR APPLE IN WAY.
>428 * C=0 = MOVE OK, AND
>429 * Y = NEW BAND/LN OFFSET.
>430 *****
>431 MDOWN
>432 ;TEST IF LEGAL TO MOVE-->
2BAF: B5 C0 >433 LDA DOPOF,X
2BB1: 29 07 >434 AND #7
2BB3: D0 40 >435 BNE NOMOV ;JP NOT ON COLUMN.
>436 ;
2BB5: B5 BD >437 LDA DOBAND,X ;GET BAND/LN.
>438 ;BAND/LN=0?
2BB7: F0 3C >439 BEQ NOMOV ;JP IN BOTTOM BAND ALREADY.
>440 ;
>441 ;MOVE DOWN-->
2BB9: 29 0F >442 AND #$0F ;LN OFFSET=15?
2BBB: F0 11 >443 BEQ MVD50 ;J IF ABOUT TO TAKE UP 2 BANDS.
2BBD: C9 0F >444 CMP #$0F
2BBF: D0 09 >445 BNE MVD25 ;JP DON'T HAVE TO MOVE DOWN A BAND.
2BC1: B5 BD >446 LDA DOBAND,X
2BC3: 38 >447 SEC
2BC4: E9 1F >448 SBC #$1F ;LN=0.
2BC6: 95 BD >449 STA DOBAND,X
2BC8: 18 >450 CLC
2BC9: 60 >451 RTS
>452 ;
>453 MVD25
2BCA: F6 BD >454 INC DOBAND,X ;ADD 1 TO LN OFFSET (LN WAS < 15).
2BCC: 18 >455 CLC
2BCD: 60 >456 RTS
>457 * ONLY TEST FOR APPLE IF LN=0
>458 *****
>459 MVD50
2BCE: B5 BD >460 LDA DOBAND,X
2BD0: 38 >461 SEC
2BD1: E9 10 >462 SBC #$10 ;BAND-1.
2BD3: B5 EF >463 STA TEMP1
2BD5: 20 1C 2D >464 JSR APTTEST ;APPLE ON BAND BELOW?
2BD8: D0 17 >465 BNE MVD55 ;JP NO.
2BDA: B9 D4 00 >466 LDA APOF,Y
2BDD: D5 C0 >467 CMP DOPOF,X ;APOS>OBJPOS?
2BDF: B0 08 >468 BCS MVD52 ;JP Y
>469 * APPLE IS TO LEFT-->
>470 *****
2BE1: 69 07 >471 ADC #7 ;APOS+7
2BE3: D5 C0 >472 CMP DOPOF,X
2BE5: B0 0E >473 BCS NOMOV ;JP AP IN WAY.
2BE7: 90 08 >474 BCC MVD55
>475 * APPLE IS TO RIGHT-->
>476 *****
>477 MVD52
2BE9: E9 07 >478 SBC #7 ;APOS-7
2BER: 90 08 >479 BCC NOMOV ;JP AP AT LEFT EDGE

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2BEB: 90 08	>479	BCC	NOMOV	; J AP AT LEFT EDGE.
2BED: D5 C0	>480	CMP	DOPOF, X	
2BEF: 90 04	>481	BCC	NOMOV	; JP AP IN WAY.
	>482			;
	>483	MVD55		
2BF1: F6 BD	>484	INC	DOBAND, X	; OFFSET=1.
	>485	MVD56		
2BF3: 18	>486	CLC		
2BF4: 60	>487	RTS		
	>488	NOMOV		
2BF5: 38	>489	SEC		
2BF6: 60	>490	RTS		
	>491			;

```

>493 *****
>494 *MUP - MOVE OBJ UP 1 LINE.
>495 *      - CHANGE BANDS IF NECESSARY.
>496 *      IN:  X-> DO,DIG1,DIG2 IDX
>497 *           IE. 0,1,2
>498 *
>499 *      OUT:  C=1 MOVE IS ILLEGAL BECAUSE:
>500 *           ALREADY AT TOP OF SCREEN, OR
>501 *           NOT IN A COLUMN.
>502 *           C=0 = MOVE OK, AND
>503 *****
>504 MUP
>505
>506 LDA DOPOF,X
>507 AND #7
>508 BNE NOMOV
>509
>510 LDA DOBAND,X
>511 AND #$0F
>512 BEQ MVU50
>513
>514 DEC DOBAND,X
>515 CLC
>516 RTS
>517 MVU50
>518 LDA DOBAND,X
>519 CMP #$70
>520 BEQ NOMOV
>521
>522 LDA #$10
>523 CLC
>524 ADC DOBAND,X
>525 STA TEMP1
>526 JSR APTTEST
>527 BNE MVU55
>528
>529 LDA APPOF,Y
>530 CMP DOPOF,X
>531 BCS MVU52
>532 * APPLE IS TO LEFT-->
>533 *****
>534 ADC #7
>535 CMP DOPOF,X
>536 BCS NOMOV
>537 BCC MVU55
>538 * APPLE IS TO RIGHT-->
>539 *****
>540 MVU52
>541 SBC #7
>542 BPL MVU53
>543 LDA #0
>544 MVU53
>545 CMP DOPOF,X
>546 BEQ NOMOV
>547 BCC NOMOV
>548 MVU55
>549 LDA DOBAND,X
>550 CLC
>551 ADC #$1F
>552 STA DOBAND,X
>553 CLC
>554 RTS
>555

```

2BF7: B5 C0
 2BF9: 29 07
 2BFB: D0 F8
 2BFD: B5 BD
 2BFF: 29 0F
 2C01: F0 04
 2C03: D6 BD
 2C05: 18
 2C06: 60
 2C07: B5 BD
 2C09: C9 70
 2C0B: F0 E8
 2C0D: A9 10
 2C0F: 18
 2C10: 75 BD
 2C12: 85 EF
 2C14: 20 1C 2D
 2C17: D0 1B
 2C19: B9 D4 00
 2C1C: D5 C0
 2C1E: B0 08
 2C20: 69 07
 2C22: D5 C0
 2C24: B0 CF
 2C26: 90 0C
 2C28: E9 07
 2C2A: 10 02
 2C2C: A9 00
 2C2E: D5 C0
 2C30: F0 C3
 2C32: 90 C1
 2C34: B5 BD
 2C36: 18
 2C37: 69 1F
 2C39: 95 BD
 2C3B: 18
 2C3C: 60

;TEST IF LEGAL->
 ;JP NOT ON COLUMN.
 ;
 ;LN=0?
 ;JP YES,MUST MOVE UP A BAND.
 ;
 ;AT TOP ALREADY?
 ;JP YES.
 ;
 ;APPLE ON BAND?
 ;JP N.
 ;
 ;APOS>=OBJPOS?
 ;JP Y.
 ;APOS+7>OPOS?
 ;JP AP IN WAY.
 ;ELSE OK.
 ;J N WRAP.
 ;APOS-7>OPOS?
 ;JP IN WAY.
 ;BAND=BAND+1, LN=15.


```

>557 *****
>558 *MRIGHT- MOVE OBJ RIGHT 1 PIXEL.
>559 *   IN: X= DO,DIG1,DIG2 IDX.
>560 *   IE. 0,1,2
>561 *
>562 *   OUT: C=1 IF MOVE IS ILLEGAL BECAUSE:
>563 *           NOT W/I A BAND, OR
>564 *           ALREADY AT RIGHT EDGE OF SCREEN.
>565 *           OR AGAINST APPLE AT EDGE.
>566 *           C=0 MOVE IS OK, AND
>567 *           APPLE IS MOVED IF PUSHED.
>568 *****
>569 MRIGHT
>570 ;TEST IF MOVE IS LEGAL->
2C3D: B5 BD >571 LDA DOBAND,X
2C3F: 85 EF >572 STA TEMP1 ;SV FOR APTTEST.
2C41: 29 OF >573 AND #$OF ;LN=0(W/I A BAND)?
2C43: D0 5F >574 BNE NOMVH ;JP NO.
>575 ;
2C45: B5 C0 >576 LDA DOPOF,X
2C47: C9 78 >577 CMP #120 ;AT EDGE ALREADY?
2C49: F0 59 >578 BEQ NOMVH ;JP YES.
>579 ;
2C4B: 20 1C 2D >580 JSR APTTEST ;AN APPLE ON SAME BAND?
2C4E: D0 33 >581 BNE MVITR ;JP NO.
>582 ;
2C50: B5 C0 >583 LDA DOPOF,X ;GET POS
2C52: 18 >584 CLC
2C53: 69 08 >585 ADC #8
2C55: D9 D4 00 >586 CMP APPOF,Y ;PUSHING THE AP?
2C58: D0 29 >587 BNE MVITR ;JP N.
>588 ;
2C5A: B9 D4 00 >589 LDA APPOF,Y
2C5D: C9 78 >590 CMP #120 ;AT EDGE?
2C5F: F0 26 >591 BEQ REVDIR ;JP Y.
>592 ;IS IT A FALLING APPLE?
>593 ;Y=WHICH RAM APPLE IS ON SAME BAND
.
2C61: A5 BD >594 LDA APFALL
2C63: 30 0A >595 BMI OSIDE ;J NO AP FALLING.
2C65: 4A >596 LSR
2C66: 4A >597 LSR
2C67: 4A >598 LSR
2C68: 4A >599 LSR ;GET WHICH IS FALLING.
2C69: B5 F2 >600 STA TEMP4
2C6B: C4 F2 >601 CPY TEMP4 ;IS IT THE ONE BEING PUSHED?
2C6D: F0 35 >602 BEQ NOMVH ;J Y.
>603 ;
>604 * IS SOMEONE PUSHING OTHER SIDE?
>605 *****
>606 OSIDE
2C6F: 18 >607 CLC
2C70: B9 D4 00 >608 LDA APPOF,Y
2C73: 69 08 >609 ADC #8
2C75: 20 EF 2C >610 JSR APPUSH
2C78: B0 0D >611 BCS REVDIR ;J Y.
>612 MVITRA
2C7A: 18 >613 CLC
2C7B: A9 01 >614 LDA #1
2C7D: 79 D4 00 >615 ADC APPOF,Y ;MV AP.
2C80: 99 D4 00 >616 STA APPOF,Y
>617 MVITR
2C83: F6 C0 >618 INC DOPOF,X ;MV OBJ.
2C85: 18 >619 CLC
2C86: 40 >620 STC

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2C87: 8A
2C88: F0 1A
2C8A: A9 03
2C8C: 95 C8
2C8E: 95 C3
2C90: A9 83
2C92: 95 C9
2C94: B5 BD
2C96: 29 70
2C98: F0 06
2C9A: A9 01
2C9C: 95 C5
2C9E: 38
2C9F: 60

2CA0: A9 00
2CA2: 95 C5

2CA4: 38
2CA5: 60

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>621
>622 * CAN'T MOVE - SOMEONE ON OTHER
>623 * SIDE OF APPLE BEING PUSHED-->
>624 *****
>625 REVDIR
>626 TXA
>627 BEQ NOMVH ;J IF MR.DO.
>628 LDA #3
>629 STA DIGIQ-1,X
>630 STA DIGDAT-1,X
>631 LDA #B3
>632 STA DIGTIM-1,X ;START DIGGING.
>633 LDA DIGBAND-1,X
>634 AND #70 ;BOTTOM?
>635 BEQ DUP ;J Y.
>636 LDA #DOWND
>637 STA DIGDIR-1,X
>638 SEC ;FLAG FAILED.
>639 RTS
>640 DUP
>641 LDA #UPD ;RIGHTD
>642 STA DIGDIR-1,X
>643 ;
>644 * NO MOVE HORIZ EXIT-->
>645 *****
>646 NOMVH
>647 SEC
>648 RTS

```

```

>650 *****
>651 *MLEFT - MOVE OBJ 1 PIXEL LEFT.
>652 *   ALSO MV APPLE IF PUSHING IT.
>653 *   IN:  X = DO,DIG1,DIG2 IDX.
>654 *       IE. 0,1,2
>655 *
>656 *   OUT: C=1 = ILLEGAL BECAUSE ALREADY AT LEFT EDGE, OR
>657 *           NOT W/I A BAND.
>658 *
>659 *       C=0 MOVE IS OK, AND
>660 *****
>661 MLEFT
>662
2CA6: B5 BD >663 LDA DOBAND,X ;TEST IF MOVE IS LEGAL->
2CA8: 85 EF >664 STA TEMP1 ;SV FOR APTTEST.
2CAA: 29 OF >665 AND #0F ;W/I A BAND?
2CAC: D0 F6 >666 BNE NOMVH ;JP NO.
>667 ;
2CAE: B5 C0 >668 LDA DOPOF,X
2CB0: F0 F2 >669 BEQ NOMVH ;JP IF AT LEFT EDGE ALREADY.
>670 ;TEST IF AN APPLE IS ON SAME BAND-
>
2CB2: 20 1C 2D >671 JSR APTTEST
2CB5: D0 34 >672 BNE MVITL ;JP NO AP ON SAME BAND.
2CB7: B5 C0 >673 LDA DOPOF,X ;GET POS.
2CB9: 38 >674 SEC
2CBA: E9 08 >675 SBC #8 ;C=1
2CBC: D9 D4 00 >676 CMP APPOF,Y
2CBF: D0 2A >677 BNE MVITL ;JP NOT PUSHING.
2CC1: B9 D4 00 >678 LDA APPOF,Y
2CC4: F0 C1 >679 BEQ REVDIR ;JP AP AT EDGE.
>680 ;IS IT FALLING AP?
2CC6: A5 8D >681 LDA APFALL
2CC8: 30 0A >682 BMI OSIDE2 ;J NO AP FALLING.
2CCA: 4A >683 LSR
2CCB: 4A >684 LSR
2CCC: 4A >685 LSR
2CCD: 4A >686 LSR
2CCE: 85 F2 >687 STA TEMP4
2CD0: C4 F2 >688 CPY TEMP4 ;THIS 1 FALLING?
2CD2: F0 D0 >689 BEQ NOMVH ;J Y.
>690 ;
>691 * IS SOMEONE PUSHING OTHER SIDE?
>692 *****
>693 OSIDE2
2CD4: 18 >694 CLC
2CD5: B9 D4 00 >695 LDA APPOF,Y
2CD8: 38 >696 SEC
2CD9: E9 08 >697 SBC #8
2CDB: 30 05 >698 BMI MVITLA ;J NR EDGE.
2CDD: 20 EF 2C >699 JSR APPUSH
2CE0: B0 A5 >700 BCS REVDIR ;J Y.
>701 ;
>702 * MOVE BOTH APPLE & OBJ->
>703 *****
>704 MVITLA
2CE2: 38 >705 SEC
2CE3: B9 D4 00 >706 LDA APPOF,Y
2CE6: E9 01 >707 SBC #1
2CE8: 99 D4 00 >708 STA APPOF,Y
>709 MVITL
2CEB: D6 C0 >710 DEC DOPOF,X ;DEC OBJ POF.
2CED: 18 >711 CLC
2CEE: 60 >712 RTS

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```

>715 * SOMEONE ON OTHER SIDE OF APPLE?
>716 *****
>717 APPUSH
2CEF: 85 EF >718 STA TEMP1 ;SV POS.
2CF1: B9 D0 00 >719 LDA APBAND,Y
2CF4: 29 F0 >720 AND #$F0
2CF6: 85 F1 >721 STA TEMP3 ;SV APPLE BAND.
2CF8: 84 F0 >722 STY TEMP2
2CFA: A0 02 >723 LDY #2
>724 APP2
2CFC: B9 C0 00 >725 LDA DOPOF,Y
2CFF: C5 EF >726 CMP TEMP1
2D01: D0 0E >727 BNE APP9 ;SAME BAND?
>728
2D03: B9 BD 00 >729 LDA DOBAND,Y
2D06: 30 09 >730 BMI APP9 ;J NOT ON.
2D08: 38 >731 SEC
2D09: E5 F1 >732 SBC TEMP3 ;DOBAND-APBAND.
2D0B: F0 0B >733 BEQ APP99 ;J IN WAY.
2D0D: C9 20 >734 CMP #$20 ;1 BAND ABOVE?
2D0F: 90 07 >735 BCC APP99 ;J Y.
>736 APP9
2D11: 88 >737 DEY
2D12: 10 EB >738 BPL APP2
2D14: 18 >739 CLC
2D15: A4 F0 >740 LDY TEMP2
2D17: 60 >741 RTS
>742 APP99
2D18: A4 F0 >743 LDY TEMP2
2D1A: 38 >744 SEC
2D1B: 60 >745 RT6
>746 ;
>747 *****
>748 * APTTEST - TEST IF APPLE IS ON A CERTAIN BAND.
>749 * IN: TEMP1=(B4-B7)= BAND IN QUESTION.
>750 * OUT:
>751 * NZ= NO APPLE ON BAND.
>752 * Z= YES, APPLE ON BAND &
>753 * Y=IDX FOR WHICH APPLE
>754 *****
>755 APTTEST
2D1C: A0 03 >756 LDY #3
>757 APT1
2D1E: B9 D0 00 >758 LDA APBAND,Y
2D21: 29 F0 >759 AND #$F0
2D23: C5 EF >760 CMP TEMP1 ;AP ON SAME BAND?
2D25: D0 01 >761 BNE APT9 ;JP NO.
2D27: 60 >762 RTS ;RET Z.
>763 APT9
2D28: 88 >764 DEY
2D29: 10 F3 >765 BPL APT1 ;TRY AGAIN.
2D2B: 60 >766 RTS ;RET NZ.
>767 ;
>768 ;
>769 * HI PRIORITY SONG->
>770 SONG
2D2C: 85 86 >771 STA AIDX
2D2E: 85 87 >772 STA BIDX
2D30: A9 00 >773 LDA #0
2D32: 85 88 >774 STA ADUR
2D34: 85 89 >775 STA BDUR
2D36: 60 >776 RTS
>777 ;
>778 * LOW PRIORITY SOUNDS->
>779

```

2D37:	86	F7	>780	STX	TEMP9	;SV X,
2D39:	A6	BD	>781	LDX	DOBAND	
2D3B:	30	OE	>782	BMI	NOSND	;J MR DO OFF.
			>783			
			>784	SOUND		
2D3D:	A6	88	>784	LDX	ADUR	
2D3F:	10	0A	>785	BPL	NOSND	;J SOUND ALREADY ON.
			>786			
			>787	HISND		
2D41:	A6	89	>787	LDX	BDUR	
2D43:	10	06	>788	BPL	NOSND	
2D45:	85	86	>789	STA	AIDX	
2D47:	A9	00	>790	LDA	#0	
2D49:	85	88	>791	STA	ADUR	
			>792			
			>793	NOSND		
2D4B:	A6	F7	>793	LDX	TEMP9	;RSTR X,
2D4D:	60		>794	RTS		
			>795			;+


```

73      PUT MR.DO.FIELD.RTNS
>1      */MR.DO.FIELD.RTNS LASTED:8/1/83
>2      *****
>3      * FIELD MAP TEST - IS A BIT SET*
>4      *   IN: A = B0-B3 = LN OFFSET   *
>5      *           B4-B6 = BAND NUM    *
>6      *           X = POSTBL IDX       *
>7      *   OUT: Z = BIT IS NOT SET     *
>8      *           NZ= BIT IS SET       *
>9      *****
>10     FMTEST
2D4E: 85 EF >11     STA TEMP1           ;SV BAND/LN.
2D50: 86 F0 >12     STX TEMP2           ;SV POSTBL IDX.
2D52: 20 FB 2D >13     JSR LSR4Y
2D55: A5 F0 >14     LDA TEMP2
2D57: 4A >15     LSR
2D58: 4A >16     LSR
2D59: 4A >17     LSR
2D5A: 4A >18     LSR
2D5B: 4A >19     LSR
2D5C: AA >20     TAX
2D5D: BD 9C 2E >21     LDA FBANK,X       ;LO ADDR OF FLD BANK.
2D60: 85 F1 >22     STA TEMP3
2D62: A9 00 >23     LDA #0
2D64: 85 F2 >24     STA TEMP4
2D66: A5 F0 >25     LDA TEMP2           ;POSTBL IDX.
2D68: 4A >26     LSR
2D69: 4A >27     LSR
2D6A: AA >28     TAX
2D6B: BD 7C 2E >29     LDA FMASK,X       ;MASK FOR BIT IN QUESTION.
2D6E: 49 FF >30     EOR #$FF
2D70: 31 F1 >31     AND (TEMP3),Y
2D72: 08 >32     PHP
2D73: A5 EF >33     LDA TEMP1           ;GET BAND/LN.
2D75: A6 F0 >34     LDX TEMP2
2D77: 28 >35     PLP
2D78: 60 >36     RTS                   ;RET W/ANSWER.

```

```

>38 *****
>39 * CCTEST - CHAR CELL TEST *
>40 * TEST IF 2 BITS IN FM =0. *
>41 * IN: A = B0-B3 = LN OFFSET *
>42 * B4-B7 = BAND NUM *
>43 * Y = POSTBL IDX (0-120) *
>44 * OUT: Z= BITS NOT SET *
>45 * NZ= AT LEAST 1 BIT IS SET*
>46 *****
>47 ;ENTRY FOR DIGGERS->
>48 CCTST
2D79: 85 EF >49 STA TEMP1
2D7B: 84 F0 >50 STY TEMP2
2D7D: B5 C3 >51 LDA DIGDAT-1,X
2D7F: 29 FE >52 AND #FE ;CLR B0.
2D81: 49 02 >53 EOR #2 ;DIG IMG?
2D83: D0 08 >54 BNE CCT1 ;J N.
2D85: A9 00 >55 LDA #0 ;SET EQ.
2D87: F0 26 >56 BEQ DIGING ;J Y.
>57 CCTEST
2D89: 85 EF >58 STA TEMP1 ;SV BAND/LN.
2D8B: 84 F0 >59 STY TEMP2 ;SV POSTBL IDX.
>60 ;SET UP INDIRECT PTR TO FLD BANK->
>61 CCT1
2D8D: 98 >62 TYA ;POS.
2D8E: 4A >63 LSR
2D8F: 4A >64 LSR
2D90: 4A >65 LSR
2D91: 4A >66 LSR
2D92: 4A >67 LSR ;POS/32.
2D93: A8 >68 TAY
2D94: B9 9C 2E >69 LDA FBANK,Y ;LO ADDR OF FLD BANK.
2D97: 85 F1 >70 STA TEMP3
2D99: A9 00 >71 LDA #0
2D9B: 85 F2 >72 STA TEMP4
>73 ;GET MASK TO "AND"->
2D9D: A5 F0 >74 LDA TEMP2 ;
2D9F: 4A >75 LSR
2DA0: 4A >76 LSR
2DA1: 4A >77 LSR ;POS/8.
2DA2: A8 >78 TAY
2DA3: B9 EB 2F >79 LDA CCMASK,Y ;MASK FOR 2 BITS.
2DA6: 48 >80 PHA ;SV.
2DA7: A5 EF >81 LDA TEMP1
2DA9: 20 FB 2D >82 JSR LSR4Y
2DAC: 68 >83 PLA ;GET MASK.
2DAD: 31 F1 >84 AND (TEMP3),Y
>85 DIGING
2DAF: 08 >86 PHP
2DB0: A5 EF >87 LDA TEMP1
2DB2: A4 F0 >88 LDY TEMP2
2DB4: 28 >89 PLP
2DB5: 60 >90 RTS

```

```

>92 *****
>93 * FMRMV - REMOVE 2 BITS IN FLD *
>94 * MAP *
>95 * IN: A = BAND/LN *
>96 * X = POSTBL IDX. *
>97 * OUT: BITS RMVD IN FLD MAP AT*
>98 * POSIDX AND POSIDX+4. *
>99 * (ONLY IF LN OFFSET=0) *
>100 *****
>101 FMRMV
2DB6: 84 F4 >102 STY TEMP6 ;SV Y.
2DB8: 85 EF >103 STA TEMP1 ;SV BAND/LN.
2DBA: 86 F0 >104 STX TEMP2 ;SV POSTBL IDX.
2DBC: 29 0F >105 AND #$0F ;LN=0?
2DBE: F0 04 >106 BEQ RMV1 ;JP ENTIRELY IN CHAR CELL.
2DC0: C9 01 >107 CMP #1
2DC2: D0 34 >108 BNE RMV99 ;J NOT JUST 1 LINE DOWN.
>109 ;
>110 RMV1
2DC4: A5 EF >111 LDA TEMP1
2DC6: 20 FB 2D >112 JSR LSR4Y
2DC9: A9 01 >113 LDA #1
2DCB: 85 F3 >114 STA TEMP5 ;DO THIS 2 TIMES.
>115 RMV2
2DCD: A5 F0 >116 LDA TEMP2 ;POSTBL IDX.
2DCF: 4A >117 LSR
2DD0: 4A >118 LSR
2DD1: 4A >119 LSR
2DD2: 4A >120 LSR
2DD3: 4A >121 LSR ;/32.
2DD4: AA >122 TAX
2DD5: BD 9C 2E >123 LDA FBANK,X ;LO ADDR OF FLD BANK.
2DD8: 85 F1 >124 STA TEMP3
2DDA: A9 00 >125 LDA #0
2DDC: 85 F2 >126 STA TEMP4
>127 * NOW GET MASK TO RMV BIT->
2DDE: A5 F0 >128 LDA TEMP2 ;POSTBL IDX.
2DE0: 4A >129 LSR
2DE1: 4A >130 LSR ;/4.
2DE2: AA >131 TAX
2DE3: BD 7C 2E >132 LDA FMASK,X
2DE6: 31 F1 >133 AND (TEMP3),Y ;APPLY MASK.
2DE8: 91 F1 >134 STA (TEMP3),Y
2DEA: C6 F3 >135 DEC TEMP5
2DEC: 30 0A >136 BMI RMV99 ;JP DONE TWICE.
>137 ;ADD 4 TO POSTBL IDX->
2DEE: A5 F0 >138 LDA TEMP2
2DF0: 18 >139 CLC
2DF1: 69 04 >140 ADC #4
2DF3: 85 F0 >141 STA TEMP2 ;NEW POSTBL IDX.
2DF5: 4C CD 2D >142 JMP RMV2 ;DO IT AGAIN.
>143 RMV99
2DF8: A4 F4 >144 LDY TEMP6 ;RSTR Y.
2DFA: 60 >145 RTS
>146 ;
>147
>148 LSR4Y
2DFB: 4A >149 LSR
2DFC: 4A >150 LSR
2DFD: 4A >151 LSR
2DFE: 4A >152 LSR
2DFF: 29 07 >153 AND #7
2E01: A8 >154 TAY
2E02: 60 >155 RTS

```

```

75          OBJ  BEGOBJ+$E07
76          ORG  BEGORG+$E07
77          *****
78          * ORCHARD DATA TABLES *
79          *****
80          PUT  MR.DO.FIELD DATA
>1          *MR.DO.FIELD DATA LASTED 7/29/83
>2          *****
>3          *      ASYM FLD DATA TABLES      *
>4          *****
>5          ;
>6          FR2R2

2E07: FF 00 FF
2E0A: FF
2E0B: FF FF FF
>7          DFB  $FF,$00,$FF,$FF
>8          DFB  $FF,$FF,$FF
>9          FR2L1

2E0E: 0F 3F 3F
2E11: 3F
2E12: 3F 3F 3F
>10         DFB  $0F,$3F,$3F,$3F
>11         DFB  $3F,$3F,$3F
>12         FR2L8

2E15: 0F 3F 3F
2E18: 00
>13         DFB  $0F,$3F,$3F,$00
>14         FR2R8

2E19: 3F FF FF
2E1C: FF
>15         DFB  $3F,$FF,$FF,$FF
>16         FR2R1
>17         FR2R6

2E1D: 00 FF FF
>18         DFB  $00,$FF,$FF
>19         FR1R4

2E20: FF
>20         DFB  $FF
>21         FR1L4
>22         FR2R7

2E21: FF FF FF
>23         DFB  $FF,$FF,$FF
>24         FR1L3

2E24: 00
>25         DFB  $00
>26         FR1L1
>27         FR1L6

2E25: FF
>28         DFB  $FF
>29         FR2R3
>30         FR1L5

2E26: FF FF FF
>31         DFB  $FF,$FF,$FF
>32         FR2R4

2E29: FF
>33         DFB  $FF
>34         FR1L8

2E2A: FF FF FF
2E2D: 00
>35         DFB  $FF,$FF,$FF,$00
2E2E: 3F 3F 3F
2E31: 3F
>36         DFB  $3F,$3F,$3F,$3F
>37         FR1R2

2E32: FF C0 CF
2E35: FF
>38         DFB  $FF,$C0,$CF,$FF
>39         FR1L2

2E36: FF FF FF
2E39: FF
>40         DFB  $FF,$FF,$FF,$FF
2E3A: FF FF FF
2E3D: C0
>41         DFB  $FF,$FF,$FF,$C0
>42         FR1R5

2E3E: FC FC 00
2E41: FF
>43         DFB  $FC,$FC,$00,$FF
>44         FR1R8

2E42: FF FF FF
2E45: FF
>45         DFB  $FF,$FF,$FF,$FF
>46         FR1R1

2E46: C0 0F 3F
2E49: 3F
>47         DFB  $C0,$0F,$3F,$3F

```

2E4A:	3F 3F 0F	>48	DFB	\$3F,\$3F,\$0F,\$C0
2E4D:	C0	>49	FR1L7	
2E4E:	3F	>50	DFB	\$3F
		>51	FR1R7	
2E4F:	3F 3F 3F	>52	DFB	\$3F,\$3F,\$3F
		>53	FR2L3	
2E52:	00	>54	DFB	0
		>55	FR2L2	
2E53:	3F 3F 3F			
2E56:	3F	>56	DFB	\$3F,\$3F,\$3F,\$3F
		>57	FR2L4	
2E57:	3F 3F 3F			
2E5A:	00	>58	DFB	\$3F,\$3F,\$3F,\$00
		>59	FR2L6	
2E5B:	3F FF FF			
2E5E:	FF	>60	DFB	\$3F,\$FF,\$FF,\$FF
		>61	FR2L7	
2E5F:	3F 3F 3F			
2E62:	3F	>62	DFB	\$3F,\$3F,\$3F,\$3F
		>63	FR2R5	
2E63:	00	>64	DFB	\$00
		>65	FR1R3	
2E64:	FF FF FF			
2E67:	FF	>66	DFB	\$FF,\$FF,\$FF,\$FF
2E68:	FF FF 3F			
2E6B:	00	>67	DFB	\$FF,\$FF,\$3F,\$00
		>68		
		>69	FR2L5	
2E6C:	0F 3F 3F			
2E6F:	3F	>70	DFB	\$0F,\$3F,\$3F,\$3F
2E70:	3F 3F 3F			
2E73:	00	>71	DFB	\$3F,\$3F,\$3F,\$00
		>72		
		>73	FR1R6	
2E74:	C0 0F 3F			
2E77:	3F	>74	DFB	\$C0,\$0F,\$3F,\$3F
2E7B:	3F 3F 3F			
2E7B:	00	>75	DFB	\$3F,\$3F,\$3F,\$00
		>76		
		>77		
		>78		
		>79		
GHT).				
		>80		
		>81		
		>82		
		>83		
		>84		
2E7C:	7F BF DF			
2E7F:	EF F7 FB			
2E82:	FD FE	>85	DFB	\$7F,\$BF,\$DF,\$EF,\$F7,\$FB,\$FD,\$FE
		>86		
		>87		
2E84:	FE FD FB			
2E87:	F7 EF DF			
2E8A:	BF 7F	>88	DFB	\$FE,\$FD,\$FB,\$F7,\$EF,\$DF,\$BF,\$7F
		>89		
		>90		
2E8C:	7F BF DF			
2E8F:	EF F7 FB			
2E92:	FD FE	>91	DFB	\$7F,\$BF,\$DF,\$EF,\$F7,\$FB,\$FD,\$FE
		>92		
		>93		
2E94:	FE FD FB			
2E97:	F7 EF DF			

* BIT MASKS TO REMOVE BITS IN FIELD REGS 1 & 2, (LEFT & RI

* TABLE IS IDXED BY A POSITION/8 (0 TO 31).

* MASK FOUND IS "ANDED" TO APPROP FIELD REG RAM CELL.

FMASK

* FR1 LEFT MASKS-->

* FR2 LEFT MASKS-->

* FR2 RIGHT MASKS-->

* FR1 RIGHT MASKS-->


```

2E97: F7 EF DF
2E9A: BF 7F >94 DFB $FE,$FD,$FB,$F7,$EF,$DF,$BF,$7F
>95 ;
>96 *****
>97 * START OF FIELD REG MAPS.
>98 * IDX FROM ABOVE IS /8 TO IDX INTO THIS TABLE.
>99 * THESE ARE LO BYTE ADDRS TO EACH BANK OF FLD REG DATA.
>100 *****
>101 FBANK
2E9C: 98 >102 DFB FR1L
2E9D: A0 >103 DFB FR2L
2E9E: A8 >104 DFB FR2R
2E9F: B0 >105 DFB FR1R
>106 ;
>107 ;
>108 *****
>109 * PTRS TO APPROP FIELD TABLES *
>110 * BY ROUND NUMBER. *
>111 *****
>112 F1LADR
2EA0: 25 >113 DFB <FR1L1
2EA1: 36 >114 DFB <FR1L2
2EA2: 24 >115 DFB <FR1L3
2EA3: 21 >116 DFB <FR1L4
2EA4: 26 >117 DFB <FR1L5
2EA5: 25 >118 DFB <FR1L6
2EA6: 4E >119 DFB <FR1L7
2EA7: 2A >120 DFB <FR1L8
>121 F2LADR
2EAB: 0E >122 DFB <FR2L1
2EA9: 53 >123 DFB <FR2L2
2EAA: 52 >124 DFB <FR2L3
2EAB: 57 >125 DFB <FR2L4
2EAC: 6C >126 DFB <FR2L5
2EAD: 5B >127 DFB <FR2L6
2EAE: 5F >128 DFB <FR2L7
2EAF: 15 >129 DFB <FR2L8
>130 F2RADR
2EB0: 1D >131 DFB <FR2R1
2EB1: 07 >132 DFB <FR2R2
2EB2: 26 >133 DFB <FR2R3
2EB3: 29 >134 DFB <FR2R4
2EB4: 63 >135 DFB <FR2R5
2EB5: 1D >136 DFB <FR2R6
2EB6: 21 >137 DFB <FR2R7
2EB7: 19 >138 DFB <FR2R8
>139 F1RADR
2EB8: 46 >140 DFB <FR1R1
2EB9: 32 >141 DFB <FR1R2
2EBA: 64 >142 DFB <FR1R3
2EBB: 20 >143 DFB <FR1R4
2EBC: 3E >144 DFB <FR1R5
2EBD: 74 >145 DFB <FR1R6
2EBE: 4F >146 DFB <FR1R7
2EBF: 42 >147 DFB <FR1R8
>148 ;
>149 * APPLE STARTING POSITION TABLES->
>150 *****
>151 AP1PDF
2EC0: 28 60 28
2EC3: 18 50 00
2EC6: 08 38 >152 DFB 40,96,40,24,80,00,08,56
>153 AP1POS
2EC8: 08 50 30
2ECB: 70 48 30
2ECE: 38 68 >154 DFB 8,80,48,112,72,48,56,104
>155 AP2PDF

```

2ED0:	68	48	50	>155	AP2POF		
2ED3:	28	20	40				
2ED6:	40	08		>156		DFB	104, 72, 80, 40, 32, 64, 64, 08
				>157	AP2POS		
2ED8:	20	28	18				
2EDB:	30	68	70				
2EDE:	48	18		>158		DFB	32, 40, 24, 48, 104, 112, 72, 24
				>159	AP3POF		
2EE0:	48	68	08				
2EE3:	48	08	48				
2EE6:	08	40		>160		DFB	72, 104, 08, 72, 08, 72, 08, 64
				>161	AP3POS		
2EEB:	58	68	48				
2EEB:	40	48	60				
2EEE:	28	50		>162		DFB	88, 104, 72, 64, 72, 96, 40, 80
				>163	AP4POF		
2EF0:	18	10	70				
2EF3:	08	70	30				
2EF6:	20	48		>164		DFB	24, 16, 112, 08, 112, 48, 32, 72
				>165	AP4POS		
2EFB:	28	30	40				
2EFB:	28	28	28				
2EFE:	48	00		>166		DFB	40, 48, 64, 40, 40, 40, 72, 0
				>167			;

```

82          OBJ  BEGOBJ+$F00
83          ORG  BEGORG+$F00
84          *****
85          * CHERRY DATA TABLES *
86          *****
87          PUT  MR.DO.CHERRY TABLES
>1          */MR.DO CHERRY TBL LASTED 8/1/83.
>2          *****
>3          * CHERRY HIT DETECT TABLES--> *
>4          *****
>5          ;
>6          * REPITITION,SPACING TABLE-->
>7          * INDEXED BY CHERRY CONTROL VALUE X 2.
>8          ;
>9          REPSPA
>10         ;COPIES,SPACING/8->
2F00: 01 00 >11         DFB  1,0          ;1C,0S.
2F02: 02 02 >12         DFB  2,2          ;2C,8S.
2F04: 02 04 >13         DFB  2,4          ;2C,24S.
2F06: 03 02 >14         DFB  3,2          ;3C,8S.
2F08: 02 08 >15         DFB  2,8          ;2C,56S.
2F0A: 00 00 >16         DFB  0,0          ;ILLEGAL
2F0C: 03 04 >17         DFB  3,4          ;3C 24 S.
>18         * ADDRESSES TO APPROP TRANSITION;
>19         * TABLE (IDXED BY CHERRY CONTROL VALUE).
>20         *-----*
>21         HITTBL
2F0E: 15 >22         DFB  <V1C          ;1 COPY.
2F0F: 17 >23         DFB  <V2C8S       ;2 COPY,8 SPACES.
2F10: 17 >24         DFB  <V2C24S      ;2 COPY,24 SPACES.
2F11: 18 >25         DFB  <V3C8S       ;3COPY,8SPACES.
2F12: 17 >26         DFB  <V2C56S      ;2 COPY,56 SPACES.
2F13: 00 >27         DFB  0           ;ILLEGAL.
2F14: 21 >28         DFB  <V3C24S      ;3 COPY,24 SPACES.
>29         ;
>30         *****
>31         * CHERRY CONTROL TRANSITION *
>32         *      TABLES--> *
>33         *****
>34         ;
>35         * CHERRIES HIT-TESTED FROM LEFTMOST TO RIGHTMOST CHERRY.
>36         ;
>37         * INDEXED BY NUM TIMES CHERRY POS HAD TO BE TESTED BEFORE F
OUND.
>38         * IE (0 TO 2)*2.
>39         * NEW CONTROL,NUM TIMES TO ADD SPACING TO CPOF,
>40         *****
>41         V1C
2F15: 00 00 >42         DFB  0,0          ;ALL GONE.
>43         V2C8S
>44         V2C24S
>45         V2C56S
>46         ;
2F17: 80 01 >47         DFB  $80,1       ;LEFT->
>48         ;
2F19: 80 00 >49         DFB  $80,0       ;RIGHT->
>50         V3C8S
>51         ;
2F1B: 81 01 >52         DFB  $81,1       ;LEFT->
>53         ;
2F1D: 82 00 >54         DFB  $82,0       ;MID->
>55         ;
2F1F: 81 00 >56         DFB  $81,0       ;RIGHT->
>57         V3C24S
>58         ;LEFT->

```

```

>58      2F21: 82 01      >59      DFB  $82,1      ;LEFT->
>60
2F23: 84 00      >61      DFB  $84,0      ;MID->
>62
2F25: 82 00      >63      DFB  $82,0      ;RIGHT->
>64
>65
>66
>67      *****
>68      * INITIAL CHERRY POF/CONTROL *
>69      * ADDRESSES BY ROUND NUMBER *
>70      * B0-B2= CHERRY CONTROL VALUE *
>71      * B3-B6= INDEX TO POFIDX TABLE *
>72      * B7 = SOME CHERRY,NO CHERRY *
>73      *****
2F27: 2F      >74      DFB  <CCTL1
2F28: 3D      >75      DFB  <CCTL2
2F29: 45      >76      DFB  <CCTL3
2F2A: 4D      >77      DFB  <CCTL4
2F2B: 35      >78      DFB  <CCTL5
2F2C: 55      >79      DFB  <CCTL6
2F2D: 5D      >80      DFB  <CCTL7
2F2E: 65      >81      DFB  <CCTL8
>82
>83      CCTL1
2F2F: 83 83 D3
2F32: D3 C3 C3 >84      DFB  $83,$83,$D3,$D3,$C3,$C3
>85      CCTL5
2F35: 83 83 93
2F38: 93 C3 C3
2F3B: DB DB >86      DFB  $83,$83,$93,$93,$C3,$C3,$DB,$DB
>87      CCTL2
2F3D: 8B 8B C3
2F40: C3 83 83
2F43: DB DB >88      DFB  $8B,$8B,$C3,$C3,$83,$83,$DB,$DB
>89      CCTL3
2F45: CB CB 93
2F48: 93 DB DB
2F4B: 83 83 >90      DFB  $CB,$CB,$93,$93,$DB,$DB,$83,$83
>91      CCTL4
2F4D: 93 93 DB
2F50: DB 83 83
2F53: CB CB >92      DFB  $93,$93,$DB,$DB,$83,$83,$CB,$CB
>93      CCTL6
2F55: 83 83 9B
2F58: 9B CB CB
2F5B: 8B 8B >94      DFB  $83,$83,$9B,$9B,$CB,$CB,$8B,$8B
>95      CCTL7
2F5D: D3 D3 93
2F60: 93 D3 D3
2F63: 93 93 >96      DFB  $D3,$D3,$93,$93,$D3,$D3,$93,$93
>97      CCTL8
2F65: 8B 8B CB
2F68: CB 93 93
2F6B: C3 C3 >98      DFB  $8B,$8B,$CB,$CB,$93,$93,$C3,$C3
>99
>100     * TIME ( X 2 SEC) BEFORE A NEW
>101     * TURNS INTO A DIGGER.
>102     * IDXED BY ROUND.
>103     *****
>104     IQTBL
>105     DTIME
2F6D: 09 09 08
2F70: 05 02 07
2F73: 02 04 >106      DFB  9,9,8,5,2,7,2,4
2F75: 08 02 05

```

```

2F75: 09 02 05
2F7B: 04 03 02
2F7B: 05 01 >107 DFB 9,2,5,4,3,2,5,1
2F7D: 01 02 03
2F80: 04 >108 DFB 1,2,3,4
>109 * HOW LONG THEY STAY AS DIGGERS-->
>110 *****
>111 DDUR

2F81: 81 81 82
2F84: 82 >112 DFB $81,$81,$82,$82
2F85: 85 82 81
2F88: 83 >113 DFB $85,$82,$81,$83
2F89: 84 85 84
2F8C: 85 >114 DFB $84,$85,$84,$85
2F8D: 83 81 85
2F90: 83 >115 DFB $83,$81,$85,$83
2F91: 83 84 81
2F94: 82 >116 DFB $83,$84,$81,$82
>117 ;
>118 * DIGGER SPEED TABLES-->
>119 *****
>120 * B0=UP SPEED.
>121 * B1=DOWN SPEED.
>122 * B2=LEFT SPEED.
>123 * B3=RIGHT SPEED.
>124 * IDX TBLS BY DIGSPD
>125 *****
>126 SPDTBL

2F95: 00 00 00
2F98: 08 >127 DFB 0,0,0,8
2F99: 01 04 06
2F9C: 03 >128 DFB 1,4,6,3
2F9D: 0A 0F 0C
2FA0: 09 >129 DFB $0A,$0F,$0C,$09
2FA1: 07 0B 0F
2FA4: 0D >130 DFB $07,$0B,$0F,$0D
2FA5: 0E 0F 0E
2FAB: 0F >131 DFB $0E,$0F,$0E,$0F
>132 ;
>133 ;
>134 *****
>135 * IN X=IDX TO DESIRED SPRITE
>136 * IE. 0=MR DO.
>137 * DIGBAND-DOBAND=1ST DIG.
>138 * DIGBAND+1-DOBAND=2ND DIG.
>139 * OUT C=1=HIT AND MIS IS OFF.
>140 * C=0=NOHIT.
>141 *****
>142 PWRHIT

2FA9: 85 BD >143 LDA DOBAND,X
2FAB: 30 39 >144 BMI NOHITP ;J OBJ NOT ON.
2FAD: 29 0F >145 AND #$0F
2FAF: 85 EF >146 STA TEMP1 ;SV OBJ LN OFFSET.
2FB1: A9 0F >147 LDA #$0F
2FB3: 38 >148 SEC
2FB4: E5 B9 >149 SBC MISLN
2FB6: 85 F0 >150 STA TEMP2 ;SV (15-MISLN).
2FB8: B5 BD >151 LDA DOBAND,X
2FBA: 4A >152 LSR
2FBB: 4A >153 LSR
2FBC: 4A >154 LSR
2FBD: 4A >155 LSR
2FBE: 38 >156 SEC
2FBF: E5 BA >157 SBC MSBAND ;BAND-MSBAND.
2FC1: D0 08 >158 BNE PH55 ;J NOT SAME BAND.
>159 ;
2FC3: 05 F0 >160 LDA TEMP2

```


2FC5:	C5 EF	>161		CMP	TEMP1	
2FC7:	B0 0C	>162		BCS	PVHIT	;J HIT VERTICALLY.
2FC9:	90 1B	>163		BCC	NOHITP	
		>164	PH55			
2FCB:	C9 01	>165		CMP	#1	
2FCD:	D0 17	>166		BNE	NOHITP	;J NOT IN BAND ABOVE.
		>167				;
2FCF:	A5 F0	>168		LDA	TEMP2	
2FD1:	C5 EF	>169		CMP	TEMP1	
2FD3:	B0 11	>170		BCS	NOHITP	;J NO V HIT.
		>171				;
		>172	PVHIT			
2FD5:	B5 C0	>173		LDA	DOPOF,X	
2FD7:	C5 BB	>174		CMP	MISPOF	
2FD9:	B0 0B	>175		BCS	NOHITP	;J OBJ>MIS.
2FDB:	69 06	>176		ADC	#6	
2FDD:	C5 BB	>177		CMP	MISPOF	
2FDF:	90 05	>178		BCC	NOHITP	;J OBJ+7<MISPOF.
2FE1:	A9 80	>179		LDA	#\$80	
2FE3:	85 BA	>180		STA	MSBAND	;TURN OFF MIS.
2FE5:	60	>181		RTS		;RET W/HIT FLAG.
		>182	NOHITP			
2FE6:	18	>183		CLC		
2FE7:	60	>184		RTS		
		>185				;
		>186				;FLD MASKS->.
		>187	CCMASK			
2FEB:	C0 30 0C					
2FEB:	03	>188		DFB	\$C0,\$30,\$0C,\$03	
2FEC:	03 0C 30					
2FEF:	C0	>189		DFB	\$03,\$0C,\$30,\$C0	
2FF0:	C0 30 0C					
2FF3:	03	>190		DFB	\$C0,\$30,\$0C,\$03	
2FF4:	03 0C 30					
2FF7:	C0	>191		DFB	\$03,\$0C,\$30,\$C0	
		>192				;

```

      89
      90
2FFC: 12 20
      91
      92  END

OBJ  BEGOBJ+$FFC
ORG  BEGORG+$FFC
DA   PWRUP

```

--End assembly--

2 bytes

Errors: 0

Symbol table - alphabetical order:

ABORT	=\$21C0	ABOVE0	=\$222D	ABOVE1	=\$2230	ABOVE2	=\$2247
ABOVE3	=\$2240	ABOVE6	=\$225A	ABOVE7	=\$2261	ABVL	=\$224C
? ADAT	=\$E5	ADD1K	=\$24CD	ADD44	=\$2B4B	ADD55	=\$2B52
ADDPIS	=\$2B23	ADUR	=\$88	AIDX	=\$86	ALF99	=\$2508
ALFRET	=\$2BA9	ALFT5	=\$2B97	ALGONE	=\$2058	ALPHA	=\$8B
ANIM8	=\$8E	AP1POF	=\$2EC0	AP1POS	=\$2EC8	AP2POF	=\$2ED0
AP2POS	=\$2ED8	AP3POF	=\$2EE0	AP3POS	=\$2EE8	AP4POF	=\$2EF0
AP4POS	=\$2EF8	APBAND	=\$D0	APFALL	=\$8D	APLEFT	=\$2419
? APOF	=\$E7	APP2	=\$2CFC	APP9	=\$2D11	APP99	=\$2D18
? APPLE	=\$233C	APPLE1	=\$2A11	APPLE2	=\$2A1E	APPLE3	=\$2A2B
APPLE4	=\$2A38	APPOF	=\$D4	APPUSH	=\$2CEF	APRITE	=\$2421
? APRMV	=\$23B9	AFT1	=\$2D1E	APT9	=\$2D28	APTEST	=\$2D1C
? ATACOL	=\$06	? ATACTL	=\$04	? ATADAT	=\$1B	? ATBCOL	=\$07
? ATBCTL	=\$05	? ATBDAT	=\$1C	ATBLNK	=\$01	? ATFCOL	=\$08
ATFCTL	=\$0A	ATJBA	=\$3C	? ATMVIN	=\$2A	? ATREMV	=\$2B
? ATSALA	=\$10	? ATSBLA	=\$11	ATSCOL	=\$09	ATSYNC	=\$00
ATWAIT	=\$02	? AVAIL	=\$2852	? BAND	=\$DD	? BDAT	=\$F6
BDUR	=\$89	BEEP	=\$08	BEGOBJ	=\$8004	BEGORG	=\$2000
BELLS	=\$14	BELOW0	=\$21FC	BELOW1	=\$2201	BIDX	=\$87
BLACK	=\$00	BLKWHT	=\$281A	BLOL	=\$220F	BLOW1	=\$27B5
? BLUE	=\$9A	BOOP	=\$0E	BOTTIM	=\$9F	BOTVI	=\$202E
? BPOF	=\$F8	BRKIT	=\$24BC	? BROWN	=\$12	BUT4	=\$277B
BUT5	=\$2781	BUTTON	=\$2767	CATCH	=\$289C	CCMASK	=\$2FE8
CCT1	=\$2D8D	CCTEST	=\$2D89	CCTL1	=\$2F2F	CCTL2	=\$2F3D
CCTL3	=\$2F45	CCTL4	=\$2F4D	CCTL5	=\$2F35	CCTL6	=\$2F55
CCTL7	=\$2F5D	CCTL8	=\$2F65	CCTLAD	=\$2F27	CCTST	=\$2D79
CH1	=\$2ABA	CH2	=\$2A93	CH25	=\$2AC7	CH50	=\$2ADB
CH75	=\$2AF1	CH80	=\$2AFD	CHER1	=\$1C	CHER2	=\$29
CHER3	=\$36	CHER4	=\$43	CHER5	=\$50	CHER6	=\$5D
CHERE	=\$2AAA	CHERRYC	=\$90	CHERRYT	=\$8C	CHIT	=\$2A7F
CHKHRZ	=\$2702	CHRPTS	=\$2B1D	CLRAM	=\$2017	CNOTE	=\$2B17
CTIME	=\$26B2	D1ON	=\$2539	DDUR	=\$2F81	DEADSND	=\$00
DIDMOV	=\$22E4	DIGBAND	=\$8E	DIGDAT	=\$C4	DIGDIR	=\$C6
DIGING	=\$2DAF	DIGINV	=\$8A	DIGIQ	=\$CC	DIGPOF	=\$C1
DIGSPD	=\$C8	DIGTIM	=\$CA	DIR25	=\$221B	DIRTBL	=\$2324
DLRU	=\$2336	DMASK	=\$24CA	DOBAND	=\$8D	? DODAT	=\$C3
DODEAD	=\$20	DOINV	=\$DB	DOPOF	=\$C0	DOWN	=\$272F
DOWND	=\$01	? DOWNI	=\$04	DRAGEM	=\$2441	DRAGIT	=\$244C
DRAQT	=\$23F3	DRAQT8	=\$20E2	DRLU	=\$2330	DSPD	=\$2A70
DSPD2	=\$2A79	DTIM9	=\$2669	DTIME	=\$2F6D	DUP	=\$2CA0
EAT5	=\$2518	EATTST	=\$2052	EMV	=\$21A5	END	=\$2FFE
ENDBOT	=\$233C	ENDJOY	=\$283B	ENDMV	=\$2136	ENDTIM	=\$24D9
? EVO	=\$2629	EVO2	=\$2637	EVO5	=\$264E	EVO7	=\$265A
EV088	=\$266B	EV099	=\$266E	? EVOCHK	=\$2635	F03	=\$238B
F1LADR	=\$2EA0	F1RADR	=\$2EB8	F2LADR	=\$2EA8	F2RADR	=\$2EB0
F44	=\$239B	F47	=\$23AA	F55	=\$23B1	F57	=\$23C8
FALL99	=\$24D7	FALLMON	=\$237B	FBANK	=\$2E9C	FCOLOR	=\$8F
FLDCOL	=\$282B	FLDOUT	=\$20C9	FMAP2	=\$20DB	FMASK	=\$2E7C
FMRMV	=\$2DB6	FMTEST	=\$2D4E	FR1L	=\$98	FR1L1	=\$2E25
FR1L2	=\$2E36	FR1L3	=\$2E24	FR1L4	=\$2E21	FR1L5	=\$2E24

FR1L2	=\$2E36	FR1L3	=\$2E24	FR1L4	=\$2E21	FR1L5	=\$2E26
FR1L6	=\$2E25	FR1L7	=\$2E4E	FR1L8	=\$2E2A	FR1R	=\$B0
FR1R1	=\$2E46	FR1R2	=\$2E32	FR1R3	=\$2E64	FR1R4	=\$2E20
FR1R5	=\$2E3E	FR1R6	=\$2E74	FR1R7	=\$2E4F	FR1R8	=\$2E42
FR2L	=\$A0	FR2L1	=\$2E0E	FR2L2	=\$2E53	FR2L3	=\$2E52
FR2L4	=\$2E57	FR2L5	=\$2E6C	FR2L6	=\$2E5B	FR2L7	=\$2E5F
FR2L8	=\$2E15	FR2R	=\$A8	FR2R1	=\$2E1D	FR2R2	=\$2E07
FR2R3	=\$2E26	FR2R4	=\$2E29	FR2R5	=\$2E63	FR2R6	=\$2E1D
FR2R7	=\$2E21	FR2R8	=\$2E19	FRAMEH	=\$85	FRAMEL	=\$84
FTST	=\$27BA	GAME	=\$80	GAMOVR	=\$40	GOLD	=\$16
? GOVER	=\$25BE	? GREEN	=\$D6	HAVDIR	=\$2263	HAVIT	=\$2B9E
HCHG	=\$2903	? HIDATA	=\$E6	? HIDATB	=\$F7	HISND	=\$2D41
HIT2	=\$2079	HITTBL	=\$2F0E	? HOR99	=\$290E	HORV	=\$22F7
IGAME	=\$2989	IIS	=\$209E	IIR	=\$20A4	ILL1	=\$26FF
ILLEG	=\$274B	INCINV	=\$209B	IQTBL	=\$2F6D	IRND	=\$29E9
IROUND	=\$29A9	JOY1	=\$26E7	JOY98	=\$2765	JOY99	=\$2767
JOYADN	=\$20	JOYALT	=\$40	JOYART	=\$80	JOYAUP	=\$10
JOYDAT	=\$0280	JOYRD	=\$26BD	KEEPMV	=\$210D	KMS	=\$2139
KM7	=\$215E	KML2	=\$216D	? KMLFT	=\$2162	KMRT	=\$2184
KMRT2	=\$2190	LASTJY	=\$B8	? LBLUE	=\$96	LDUR	=\$2326
LEFT	=\$2711	LEFTD	=\$03	? LEFTI	=\$0C	? LODATA	=\$DE
? LODATB	=\$EF	LOSND	=\$2D37	LSR4Y	=\$2DFB	LUDR	=\$2332
MDDN	=\$229B	MDLT	=\$2285	MDLTJP	=\$22E1	MDOHIT	=\$20A5
MDOWN	=\$2BAF	MDRT	=\$2268	MDRT2	=\$2278	MDRT4	=\$2280
MDUP	=\$22B1	MID15	=\$23E5	MID5	=\$23D6	MIDAIR	=\$23CD
? MIDTIM	=\$AD	MISDIR	=\$BC	MISLN	=\$B9	MISPOF	=\$BB
MLEFT	=\$2CA6	MODE	=\$DA	MONSTR	=\$2BAA	MRIGHT	=\$2C3D
MSBAND	=\$BA	MUP	=\$2BF7	? MUX	=\$CE	MVC1	=\$20ED
MVCHK	=\$20E4	MVD2	=\$2147	MVD25	=\$2BCA	MVD50	=\$2BCE
MVD52	=\$2BE9	MVD55	=\$2BF1	? MVD56	=\$2BF3	MVITL	=\$2CEB
MVITLA	=\$2CE2	MVITR	=\$2C83	? MVITRA	=\$2C7A	MVU2	=\$211E
MVU3	=\$2126	MVU50	=\$2C07	MVU52	=\$2C28	MVU53	=\$2C2E
MVU55	=\$2C34	NEWDIR	=\$21E3	NEWMOV	=\$21A8	NEWRND	=\$205F
NF5	=\$2359	NF9	=\$2364	NG99	=\$22F4	NJOY	=\$26BA
NM1	=\$21D2	NM2	=\$21D9	NM3	=\$21E0	NMOV	=\$20EA
NOBOR	=\$2305	NOBOR2	=\$2321	NOBUT	=\$27CE	NOCH	=\$2B15
NOCHER	=\$26B6	NOCHG	=\$2B7F	NOGOOD	=\$22C7	NOHIT	=\$20C0
NOHITP	=\$2FE6	? NOMORE	=\$20A9	NOMOV	=\$2BF5	NOMVH	=\$2CA4
NOPWR	=\$284B	NORES	=\$27DA	NOSEL	=\$2807	NOSND	=\$2D4B
NOTDIG	=\$2686	NOTIM	=\$251A	NOX	=\$261F	NOXTRA	=\$256A
NXTTRY	=\$2092	NXTTST	=\$2453	NYET	=\$240A	? ORANGE	=\$28
ORGTBL	=\$24C6	OSIDE	=\$2C6F	OSIDE2	=\$2CD4	? PD1	=\$FC
? PD10	=\$FA	? PD100	=\$F8	? PD100K	=\$F2	? PD10K	=\$F4
? PD1K	=\$F6	PDOWN	=\$294E	PH55	=\$2FCB	PLAY	=\$10
PMODE	=\$203E	PP2	=\$2885	PP3	=\$2887	PRIGHT	=\$28E8
PTIME	=\$2981	? PTR	=\$DC	PUR4	=\$2922	? PURPLE	=\$68
PVHIT	=\$2FD5	PWLN	=\$2971	PWPOF	=\$296D	PWRO	=\$288C
PWR2	=\$2857	PWR3	=\$28A3	PWR55	=\$28A5	PWR66	=\$28B0
PWRB4	=\$28C4	PWRB6	=\$28D7	PWR99	=\$2986	PWRDEC	=\$284E
PWRDIR	=\$2827	PWRHIT	=\$2FA9	PWRLN	=\$281F	PWRMOV	=\$28DC
PWROFF	=\$2823	PWRTIM	=\$DB	PWRUP	=\$2012	RANDOM	=\$D9
RDUL	=\$232C	? RED	=\$22	REPSA	=\$2F00	RESUM	=\$80
REVDIR	=\$2C87	REVVID	=\$2B82	RIGHT	=\$2720	RIGHTD	=\$02
? RIGHTI	=\$08	RMV1	=\$2DC4	RMV2	=\$2DCD	RMV99	=\$2DF8
RNDOWN	=\$21F1	RNDLFT	=\$224F	RNDRT	=\$2235	RNDUP	=\$2223
ROUND	=\$81	RUDL	=\$233B	SAM1	=\$27B0	SAME	=\$2871
SAME1	=\$21C7	? SAMEBD	=\$27C5	SB25	=\$24A3	SB7	=\$2478
SB70	=\$2485	SB88	=\$24A0	SCORHI	=\$83	SCORLO	=\$82
? SCRCOL	=\$00	SEARCH	=\$22CD	SEL2	=\$27FF	SELECT	=\$30
SETTIM	=\$2459	SETTRK	=\$2583	SITBRK	=\$2462	SOMLFT	=\$206F
SONG	=\$2D2C	SONG1	=\$00	SONG2	=\$31	SONG3	=\$51
SOUND	=\$2D3D	SPDTBL	=\$2F95	STFALL	=\$2367	? SWIADF	=\$40
? SWIBDF	=\$80	SWICOL	=\$08	SWIRES	=\$01	SWISEL	=\$02
? SWIT	=\$27CE	SWITCH	=\$0282	TEMP1	=\$EF	TEMP10	=\$F8
? TEMP11	=\$EC	? TEMP12	=\$ED	? TEMP13	=\$EE	? TEMP14	=\$EA
? TEMP15	=\$EB	TEMP2	=\$F0	TEMP3	=\$F1	TEMP4	=\$F2

TEMP5 = \$F3	TEMP6 = \$F4	TEMP7 = \$F5	TEMP8 = \$F6
UPD = \$232A	UPD = \$273E	V2C24S = \$2F17	V2C24S = \$2F17
UPI = \$00	URLD = \$2324	V3C8S = \$2F1B	VERT99 = \$294B
V2C56S = \$2F17	V2C8S = \$2F17	W45 = \$2596	W46 = \$25D9
VCHG = \$2940	VCHG1 = \$293E	WAIT3 = \$254E	WAIT4 = \$2577
VTEST = \$2427	W44 = \$258A	WAIT7 = \$2605	WHITE = \$0E
W47 = \$25BA	WAIT2 = \$251A		
WAIT5 = \$25E9	WAIT6 = \$2601		
XTRADO = \$70	YELLOW = \$1A		

Symbol table - numerical order:

ATSYNCR = \$00	BLACK = \$00	SCRCOL = \$00	UPI = \$00
UPD = \$00	DEADSNDR = \$00	SONG1 = \$00	ATBLNKR = \$01
SWIRES = \$01	DOWNRD = \$01	ATWAIT = \$02	SWISEL = \$02
RIGHTD = \$02	LEFTD = \$03	ATACTL = \$04	DOWNI = \$04
ATBCTLR = \$05	ATACOL = \$06	ATBCOL = \$07	ATFCOL = \$08
SWICOL = \$08	RIGHTI = \$08	BEEP = \$08	ATSCOL = \$09
ATFCTL = \$0A	LEFTI = \$0C	WHITE = \$0E	BOOP = \$0E
ATSALA = \$10	JOYAUP = \$10	PLAY = \$10	ATSBLA = \$11
BROWN = \$12	BELLS = \$14	GOLD = \$16	YELLOW = \$1A
ATADAT = \$1B	ATBDAT = \$1C	CHER1 = \$1C	JOYADNR = \$20
DODEAD = \$20	RED = \$22	ORANGE = \$2B	CHER2 = \$29
ATMVIN = \$2A	ATREMR = \$2B	SELECT = \$30	SONG2 = \$31
CHER3 = \$36	ATJBA = \$3C	JOYALT = \$40	SWIADF = \$40
GAMOVR = \$40	CHER4 = \$43	TRACK = \$50	CHER5 = \$50
SONG3 = \$51	CHER6 = \$5D	PURPLE = \$6B	XTRADO = \$70
JOYART = \$80	SWIBDF = \$80	GAME = \$80	RESUM = \$80
ROUND = \$81	SCORLO = \$82	SCORHI = \$83	FRAMEL = \$84
FRAMEH = \$85	AIDX = \$86	BIDX = \$87	ADUR = \$88
BDUR = \$89	DIGINV = \$8A	ALPHA = \$8B	CHERRYTR = \$8C
APFALL = \$8D	ANIM8 = \$8E	FCOLOR = \$8F	CHERRYCR = \$90
LBLUE = \$96	FR1L = \$98	BLUE = \$9A	BOTTIM = \$9F
FR2L = \$A0	FR2R = \$A8	TOPTIM = \$A9	MIDTIM = \$AD
FR1R = \$B0	LASTJY = \$B8	MISLNR = \$B9	MSBAND = \$BA
MISPOF = \$BB	MISDIR = \$BC	DOBAND = \$BD	DIGBAND = \$BE
DOPOF = \$C0	DIGPOF = \$C1	DODAT = \$C3	DIGDAT = \$C4
DIGDIR = \$C6	DIGSPD = \$C8	DIGTIM = \$CA	DIGIQ = \$CC
MUX = \$CE	APBAND = \$D0	APPOF = \$D4	GREEN = \$D6
PWRTIM = \$D8	RANDMR = \$D9	MODE = \$DA	DOINV = \$DB
PTR = \$DC	BAND = \$DD	LODATA = \$DE	ADAT = \$E5
HIDATA = \$E6	APQF = \$E7	TEMP14 = \$EA	TEMP15 = \$EB
TEMP11 = \$EC	TEMP12 = \$ED	TEMP13 = \$EE	LODATB = \$EF
TEMP1 = \$EF	TEMP2 = \$F0	TEMP3 = \$F1	TEMP4 = \$F2
PD100K = \$F2	TEMP5 = \$F3	TEMP6 = \$F4	PD10K = \$F4
TEMP7 = \$F5	BDAT = \$F6	TEMP8 = \$F6	PD1K = \$F6
HIDATB = \$F7	TEMP9 = \$F7	BPOF = \$F8	TEMP10 = \$F8
PD100 = \$F8	PD10 = \$FA	PD1 = \$FC	JOYDAT = \$0280
SWITCH = \$0282	TIMER = \$0284	TIME64 = \$0296	BEGORG = \$2000
TOPSW = \$2000	PWRUP = \$2012	CLRAM = \$2017	BOTVI = \$202E
PMODE = \$203E	EATTST = \$2052	ALGONE = \$205B	NEWNRD = \$205F
SOMLFT = \$206F	HIT2 = \$2079	NXTTRY = \$2092	INCINV = \$2098
II5 = \$209E	II9 = \$20A4	MDOHIT = \$20A5	NOMORE = \$20A9
NOHIT = \$20C0	FLDOUT = \$20C9	FMAP2 = \$20DB	DRAGTB = \$20E2
MVCHK = \$20E4	NMOV = \$20EA	MVC1 = \$20ED	KEEPMV = \$210D
MVU2 = \$211E	MVU3 = \$2126	ENDMV = \$2136	KM5 = \$2139
MVD2 = \$2147	KM7 = \$215E	KMLFT = \$2162	KML2 = \$216D
KMRT = \$2184	KMRT2 = \$2190	EMV = \$21A5	NEWMOV = \$21AB
ABORT = \$21C0	SAME1 = \$21C7	NM1 = \$21D2	NM2 = \$21D9
NM3 = \$21E0	NEWDIR = \$21E3	RNDDWN = \$21F1	BELOW0 = \$21FC
BELOW1 = \$2201	BLQL = \$220F	DIR25 = \$221B	RNDUP = \$2223
ABOVE0 = \$222D	ABOVE1 = \$2230	RNDRT = \$2235	ABOVE3 = \$2240
ABOVE2 = \$2247	ABVL = \$224C	RNDLFT = \$224F	ABOVE6 = \$225A
ABOVE7 = \$2261	ABVLR = \$2267	ABVLR = \$2267	ABVLR = \$2267

ABOVE7	=\$2261	HAVDIR	=\$2263	MDRT	=\$2268	MDRT2	=\$2278
MDRT4	=\$2280	MDLT	=\$2285	MDDN	=\$229B	MDUP	=\$22B1
NOGOOD	=\$22C7	SEARCH	=\$22CD	MDLTJP	=\$22E1	DIDMOV	=\$22E4
NG99	=\$22F4	HORV	=\$22F7	NOBOR	=\$2305	NOBOR2	=\$2321
DIRTBL	=\$2324	URLD	=\$2324	LDUR	=\$2326	ULRD	=\$232A
RDUL	=\$232C	DRLU	=\$2330	LUDR	=\$2332	DLRU	=\$2336
RUDL	=\$2338	ENDBOT	=\$233C	APPLE	=\$233C	NF5	=\$2359
NF9	=\$2364	STFALL	=\$2367	FALLMON	=\$237B	F03	=\$238B
F44	=\$2398	F47	=\$23AA	F55	=\$23B1	APRMV	=\$23B9
F57	=\$23C8	MIDAIR	=\$23CD	MID5	=\$23D6	MID15	=\$23E5
DRAGT	=\$23F3	NYET	=\$240A	APLEFT	=\$2419	APRITE	=\$2421
VTEST	=\$2427	DRAGEM	=\$2441	DRAGIT	=\$244C	NXTTST	=\$2453
SETTIM	=\$2459	SITBRK	=\$2462	SB7	=\$2478	SB70	=\$2485
SB88	=\$24A0	SB25	=\$24A3	BRKIT	=\$24BC	ORGTBL	=\$24C6
DMASK	=\$24CA	ADD1K	=\$24CD	FALL99	=\$24D7	THEEND	=\$24D7
ENDTIM	=\$24D9	UPALPH	=\$24FD	ALF99	=\$2508	EAT5	=\$2518
NOTIM	=\$251A	WAIT2	=\$251A	D10N	=\$2539	WAIT3	=\$254E
NOXTRA	=\$256A	WAIT4	=\$2577	SETTRK	=\$2583	W44	=\$258A
W45	=\$2596	W47	=\$25BA	GOVER	=\$25BE	W46	=\$25D9
WAIT5	=\$25E9	WAIT6	=\$2601	WAIT7	=\$2605	NOX	=\$261F
EVO	=\$2629	EVOCHK	=\$2635	EVO2	=\$2637	EVO5	=\$264E
EVO7	=\$265A	DTIM9	=\$2669	EVOB8	=\$266B	EVO99	=\$266E
NOTDIG	=\$2686	CTIME	=\$26B2	NOCHER	=\$26B6	NJOY	=\$26BA
JOYRD	=\$26BD	JOY1	=\$26E7	ILL1	=\$26FF	CHKHRZ	=\$2702
LEFT	=\$2711	RIGHT	=\$2720	DOWN	=\$272F	UP	=\$273E
ILLEG	=\$274B	JOY98	=\$2765	JOY99	=\$2767	BUTTON	=\$2767
BUT4	=\$277B	BUT5	=\$2781	SAM1	=\$27B0	BLOW1	=\$27B5
FTST	=\$27BA	SAMEBD	=\$27C5	NOBUT	=\$27CE	SWIT	=\$27CE
NORES	=\$27DA	SEL2	=\$27FF	NOSEL	=\$2807	BLKWHT	=\$281A
PWRLN	=\$281F	PWROFF	=\$2823	PWRDIR	=\$2827	FLDCOL	=\$282B
ENDJOY	=\$283B	NOPWR	=\$284B	PWRDEC	=\$284E	AVAIL	=\$2852
PWR2	=\$2857	SAME	=\$2871	PP2	=\$2885	PP3	=\$2887
PWR0	=\$288C	CATCH	=\$289C	PWR3	=\$28A3	PWR55	=\$28A5
PWR66	=\$28B0	PWR84	=\$28C4	PWR86	=\$28D7	PWRMOV	=\$28DC
PRIGHT	=\$28EB	HCHG	=\$2903	HOR99	=\$290E	VCHK	=\$2911
PUR4	=\$2922	VCHG1	=\$293E	VCHG	=\$2940	VERT99	=\$294B
PDOWN	=\$294E	PWPOF	=\$296D	PWLN	=\$2971	PTIME	=\$2981
PWR99	=\$2986	IGAME	=\$2989	IROUND	=\$29A9	IRND	=\$29E9
APPLE1	=\$2A11	APPLE2	=\$2A1E	APPLE3	=\$2A2B	APPLE4	=\$2A38
DSPD	=\$2A70	DSPD2	=\$2A79	CHIT	=\$2A7F	CH1	=\$2ABA
CH2	=\$2A93	CHERE	=\$2AAA	CH25	=\$2AC7	CH50	=\$2ADB
CH75	=\$2AF1	CH80	=\$2AFD	NOCH	=\$2B15	CNOTE	=\$2B17
CHRPTS	=\$2B1D	ADDPTS	=\$2B23	ADD44	=\$2B4B	ADD55	=\$2B52
NOCHG	=\$2B7F	REVVID	=\$2B82	ALFT5	=\$2B97	HAVIT	=\$2B9E
ALFRET	=\$2BA9	MONSTR	=\$2BAA	MDOWN	=\$2BAF	MVD25	=\$2BCA
MVD50	=\$2BCE	MVD52	=\$2BE9	MVD55	=\$2BF1	MVD56	=\$2BF3
NOMOV	=\$2BF5	MUP	=\$2BF7	MVU50	=\$2C07	MVU52	=\$2C28
MVU53	=\$2C2E	MVU55	=\$2C34	MRIGHT	=\$2C3D	OSIDE	=\$2C6F
MVITRA	=\$2C7A	MVITR	=\$2C83	REVDIR	=\$2C87	DUP	=\$2CA0
NOMVH	=\$2CA4	MLEFT	=\$2CA6	OSIDE2	=\$2CD4	MVITLA	=\$2CE2
MVITL	=\$2CEB	APPUSH	=\$2CEF	APP2	=\$2CFC	APP9	=\$2D11
APP99	=\$2D18	APTTEST	=\$2D1C	APT1	=\$2D1E	APT9	=\$2D28
SONG	=\$2D2C	LOSND	=\$2D37	SOUND	=\$2D3D	HISND	=\$2D41
NOSND	=\$2D4B	FMTEST	=\$2D4E	CCTST	=\$2D79	CCTEST	=\$2D89
CCT1	=\$2D8D	DIGING	=\$2DAF	FMRMV	=\$2DB6	RMV1	=\$2DC4
RMV2	=\$2DCD	RMV99	=\$2DF8	LSR4Y	=\$2DFB	FR2R2	=\$2E07
FR2L1	=\$2E0E	FR2L8	=\$2E15	FR2R8	=\$2E19	FR2R1	=\$2E1D
FR2R6	=\$2E1D	FR1R4	=\$2E20	FR1L4	=\$2E21	FR2R7	=\$2E21
FR1L3	=\$2E24	FR1L1	=\$2E25	FR1L6	=\$2E25	FR2R3	=\$2E26
FR1L5	=\$2E26	FR2R4	=\$2E29	FR1L8	=\$2E2A	FR1R2	=\$2E32
FR1L2	=\$2E36	FR1R5	=\$2E3E	FR1R8	=\$2E42	FR1R1	=\$2E46
FR1L7	=\$2E4E	FR1R7	=\$2E4F	FR2L3	=\$2E52	FR2L2	=\$2E53
FR2L4	=\$2E57	FR2L6	=\$2E5B	FR2L7	=\$2E5F	FR2R5	=\$2E63
FR1R3	=\$2E64	FR2L5	=\$2E6C	FR1R6	=\$2E74	FMA6K	=\$2E7C
FBANK	=\$2E9C	F1LADR	=\$2EA0	F2LADR	=\$2EA8	F2RADR	=\$2EB0
F1RADR	=\$2EB8	AP1POF	=\$2ECO	AP1PO9	=\$2ECB	AP2POF	=\$2ED0

AP2POS	=\$2ED8	AP3PDF	=\$2EE0	AP3POS	=\$2EE8	AP4PDF	=\$2EF0
AP4POS	=\$2EF8	REPSA	=\$2F00	HITBTL	=\$2F0E	V1C	=\$2F1E
V2C8S	=\$2F17	V2C24S	=\$2F17	V2C56S	=\$2F17	V3C8S	=\$2F17
V3C24S	=\$2F21	CCTLAD	=\$2F27	CCTL1	=\$2F2F	CCTL5	=\$2F37
CCTL2	=\$2F3D	CCTL3	=\$2F45	CCTL4	=\$2F4D	CCTL6	=\$2F57
CCTL7	=\$2F5D	CCTL8	=\$2F65	IQTBL	=\$2F6D	DTIME	=\$2F6D
DDUR	=\$2F81	SPDTBL	=\$2F95	PWRHIT	=\$2FA9	PH55	=\$2FCB
PVHIT	=\$2FD5	NOHITP	=\$2FE6	CCMASK	=\$2FEB	END	=\$2FFE
TOP2	=\$3012	BEGOBJ	=\$8004				